REPORT ON THE GEOTECHNICAL INVESTIGATION

RESTWELL TRAILER PARK

CANMORE, ALBERTA

Prepared for:

Mountain Engineering Ltd.

Prepared by:
Sabatini Earth Technologies Inc.
January, 2003
(Updated November, 2003)

SABATINI EARTH TECHNOLOGIES INC.

6919 - 32nd AVENUE N.W.
CALGARY, ALBERTA T3B 0K6
TEL: (403) 247-1813
FAX: (403) 247-1814

9315 - 35th AVENUE N.W.
EDMONTON, ALBERTA T6E 5R5
TEL: (780) 438-0844
FAX: (780) 435-1812

File: 0205-3583

January 27, 2003
(updated November 21, 2003)

Mountain Engineering Ltd.
260 Eagle Terrace Road
Canmore, Alberta
T1W 3C7

Attention: Mr. Ron Sadesky, P.Eng.

Dear Sir:

Re: Geotechnical Investigation
Restwell Trailer Park (Canmore)

Attached is our geotechnical evaluation report for the above noted project.

The soil profile consists generally of a variable thickness of fill overlying silt and gravel. The shallow groundwater table is generally within 2 metres of the existing ground surface. The geotechnical issues related to development include the presence of fill, potential for frost action and the shallow groundwater table. Although these issues may require further investigation and special design/construction procedures, they are not seen as significant constraints to site development.

Should you have any questions or require further information, please contact the undersigned.

Yours very truly,
SABATINI EARTH TECHNOLOGIES INC.

APEGGA Permit. P5773

Paul Sabatini, P.Eng.

Nov. 25/03

TABLE OF CONTENTS

A. INTRODUCTION

As authorized by Mr. Ron Sadesky, P.Eng. of Mountain Engineering Ltd., a geotechnical investigation was undertaken at the Restwell Trailer Park in Canmore, Alberta. The site includes approximately 65 acres and is bounded on the east and north sides by Policeman's Creek and/or the CP rail line and on the west and south sides by Spring Creek. At the time of the investigation, the land was for a manufactured home park, camping and cabin rental. The site is relatively level. Surface vegetation consisted of grasses, bushes and trees. The objective of the investigation was to determine preliminary subsurface soil conditions and groundwater levels pertinent to proposed development. Preliminary development plans indicate a varied combination of residential and commercial development including some single family residences, multi-family condominiums and commercial buildings up to approximately 4½ stories in height.

B. DETAILS OF INVESTIGATION

On May 10, 2002, eight (8) test holes to depths of up to 3.8 metres were drilled using a continuous flight auger rig supplied by Mobile Augers and Research Ltd. of Calgary. On July 9, 2002, three additional test pits were excavated with a track-mounted backhoe on the east side of Policeman's Creek. Test hole/pit locations and elevations were determined by a legal survey firm. A test hole location plan is included as Plate 14 in the Appendix.

Subsurface conditions were logged as drilling proceeded and bag samples were obtained at approximately 0.75 metre intervals. Pocket penetrometer readings, which give an indication of the unconfined compressive strength of the soil, were carried out on all cohesive samples in the field. In the laboratory, all samples were tested for moisture content and selected samples were tested for Atterberg Limits, soluble sulphates, moisture-density relationship (Standard Proctor) and California Bearing Ratio (CBR).

Slotted 50mm PVC or 37mm ABS wells were completed in all holes to allow for groundwater monitoring.

C. SUBSURFACE CONDITIONS

The soil profile at the test hole locations consists of the following strata in descending order of occurrence and thickness:

Fill/Topsoil	0.15m to 2.7 metres
Silt/Clay/Sand	0 to 2.2 metres
Gravel	to maximum depth investigated

Topsoil and/or fill was present at all test hole locations. The presence of fill appears to be variable but widespread on the site and is likely related to current development on the site. In some locations along the west portions of the site, fill appears to have been placed over original topsoil/organic material. The history of placement and/or compaction of the fill is largely unknown. Fill deposits are also present within backfilled utility trenches.

The uppermost native soil beneath the topsoil over the site is primarily a silt with layers and gradations of clay and sand. The silt is characterized as brown, clayey, low to non-plastic, soft to firm, and saturated. Pocket penetrometer readings of 50 to 100kPa confirm a soft to firm consistency.

Gravel was encountered beneath the silt in all test holes. The gravel was dense, well-graded and saturated.

Top-of-casing elevations for the test holes are summarized on the following table.

Test Hole Elevations **Restwell Trailer Park** (All elevations are geodetic)	
Testhole	Ground Elevation
1	1307.98m
2	1307.83m
3	1308.06m
4	1308.16m
5	1307.74m
6	1307.75m
7	1306.97m
8	1306.84m
9	1308.58m
10	1308.23m
11	1308.59m

Groundwater level monitoring was carried on a weekly basis since the drilling completion. Groundwater level readings and plots are included in Appendix B. Also included in Appendix B is a letter report prepared by Mountain Engineering Ltd. regarding calculation of the 1:100 year groundwater elevation.

Groundwater levels are subject to fluctuations from season to season and year to year and are dependent upon many factors including precipitation, surface drainage and the hydrogeology of the area.

D. COMMENTS AND RECOMMENDATIONS

Based on the results of the geotechnical investigation and our understanding of the proposed project, the following comments and recommendations are submitted:

1. Site Preparation

Fill underlain in some areas by organic soil was encountered in the test holes. It is recommended that the fill and organic material be removed beneath future building footprints and new roadways. It may be acceptable to leave existing fill beneath rear yard areas and in other landscaped areas, however, the developer should be aware that future settlement amounts can not be predicted accurately.

Much of the existing fill material may be suitable for use as engineered fill, provided it is excavated, unsuitable material removed and re-compacted in a controlled fashion. Fill should be placed in lifts such that the maximum thickness of any lift, after compaction, does not exceed

200mm. Fill should be placed within $\pm$3% of optimum with the degree of compaction of each lift being at least equal to 97 percent of maximum Standard Proctor density (ASTM Method D-698).

It should be noted that fill thickness to be removed is approximately equal to the depth of the groundwater table as measured in May/June of 2002. To minimize problems due to soft and saturated subgrade conditions, consideration should be given to carrying out the fill re-placement at a time of year when groundwater levels are at their lowest.

Prior to placement of engineered fill, all existing fill and organic soil must be removed down to original, native ground. The native ground surface can be silt or gravel, depending on the proposed final grade. The removal of existing fill/organics must be monitored by qualified geotechnical personnel to ensure that all unsuitable material is removed.

Due to the presence of a high water table, frost action is likely in the upper 2 metres of soil. To minimize potential for frost action, consideration should be given to provision of non-frost susceptible fill material in the upper 1.5 metres. Based on visual examination, the on-site native gravel, present at depths from approximately 1m to 3 metres below existing grade, appears to be non-frost susceptible and would thus be acceptable as fill material.

2. Excavations

It is anticipated that excavations for utility installations will be at or below the groundwater table at certain times of the year. It is recommended that utility installations be undertaken during late fall or early spring when groundwater levels tend to be the lowest and construction problems with groundwater seepage would be minimized. Standard backhoe trenching methods may be used for utility installation.

Dewatering techniques will likely involve a large capacity pump operating within the utility trench. Additional dewatering procedures may be necessary at certain times of the year when groundwater levels are at or near their highest levels.

Temporary slopes should be inclined at 1 horizontal to 1 vertical.

Temporary surcharge loads, such as stocks of materials, should be kept back from excavated faces a distance equal to at least one-half the excavation depth.

3. Foundation Systems

The most economical foundation system for single family dwellings, multi-family complexes and small (less than 3 stories) commercial buildings will be shallow footings bearing in native undisturbed silt or engineered fill. Footings placed on engineered fill should have the foundation soil conditions confirmed by a qualified geotechnical technologist or engineer prior to footing construction. Footings bearing in native soil or engineered fill may be designed using an allowable bearing pressure of 100kPa.

For all residential and commercial buildings, habitable space must be above the 1:100 year groundwater elevation. Parkade structures can be designed below the 1:100 year groundwater elevation, however, allowances for pressure relief would be required, such as ponding in the parkade. In addition, mechanical facilities must either be constructed above the 1:100 year groundwater elevation or within a water proof facility.

All multi-family complexes and commercial buildings should have site-specific geotechnical investigations carried out to determine appropriate foundation systems.

4. Subsurface Drainage

Where groundwater levels are available for a period of six months, the town of Canmore requires weeping tile around basement areas when the adjusted groundwater table is within 2.1m of the top-of-footing elevation. After final design grades have been established, a more detailed analysis of groundwater table elevations should be undertaken for design of subsurface drainage systems around basements and other subsurface cavities.

5. Pavement Design

A sample of subgrade soil was subjected to moisture-density relationship and California Bearing

Ratio (CBR) tests, the results of which are attached in the Appendix. Based on existing grades, it is recommended that a CBR value of 3 be used for pavement design. Recommended sections for residential and collector streets follow. It should be noted that alternative pavement designs may also be acceptable, upon review and acceptance by the project geotechnical engineer.

RESIDENTIAL (DTN=5)

40mm	- final overlay asphaltic concrete at FAC
50mm	- initial layer asphaltic concrete
50mm	- 25mm crushed gravel compacted to 98% of SPD
750mm	- 200mm base gravel compacted to 97% SPD
	- non-woven filter fabric (where subgrade is silt)
	- compacted subgrade to 97% of SPD

COLLECTOR (DTN=50)

40mm	- final overlay asphaltic concrete at FAC
110mm	- initial layer asphaltic concrete
50mm	- 25mm crushed gravel compacted to 98% of SPD
750mm	- 200mm base gravel compacted to 97% of SPD
	- non-woven filter fabric (where subgrade is silt)
	- compacted subgrade to 97% SPD

Heaving of roads/sidewalks during winter may occur due to frost action, however, the severity is difficult to predict. It is recommended that the upper 1.5 metres of soil beneath roadways/sidewalks consist of non-frost susceptible material such as well-graded gravel with less than 10% fines content. Design CBR values and pavement design recommendations should be reviewed after final grades for development have been established.

6. Foundation Concrete

Soluble sulphate content of soil samples resulted in concentrations which indicate the relative degree of attack on concrete will range from negligible to moderate. Sulphate Resistant (Type 50) Portland cement should be used for manufacture of all concrete in contact with the soil. Alternatively, additional testing of soluble sulphate content of imported fill could be carried out to determine the need for sulphate resistant cement.

APPENDIX A

Explanation of Field and Laboratory Test Data

The following pages are an explanation of the terms and symbols used on the Test Hole Logs.

Soil Profile and Description

Soil types are described by the Modified Unified Soil Classification System (See page A2 of Appendix for terms and symbols.)

Soils classified by particle size fall in the following ranges:

BOULDERS - greater than 300mm
COBBLES - 75mm to 300mm
GRAVEL - 4.75mm to 75mm

SAND - 0.075mm to 4.75mm
SILT - 0.008mm to 0.075mm
CLAY - finer than 0.002mm

Additional graphic symbols include:

⟶	seepage
∇	water level surface

Soil Sample Type

☒	Standard Penetration Sample
⧅	Undisturbed Sample (Shelby)
B	Bag Sample

Penetration Resistance

Field test indicating number of blows (N) of a 63.5kg hammer dropping 760mm required to drive a 50mm O.D. open end sampler a distance of 305mm from 152mm to 457mm into the undisturbed soil. This test is outlined in ASTM D1586.

Miscellaneous Tests

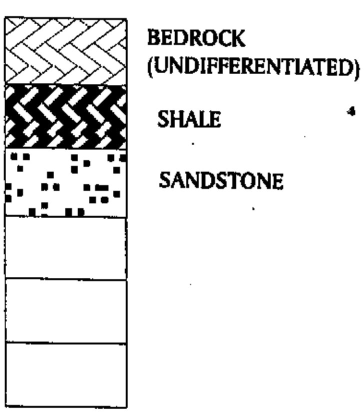
* MA	Mechanical grain size analysis
G	Specific gravity
k	Coefficient of permeability
PP	Pocket penetrometer strength
*q	Triaxial compressive strength
*C	Consolidation Test
Q_u	Unconfined compressive strength
SO_4	Soluble sulphate concentration
γ	Unit weight kN/m^3
ρ	Density kg/m^3

* Tests normally summarized on separate data sheets

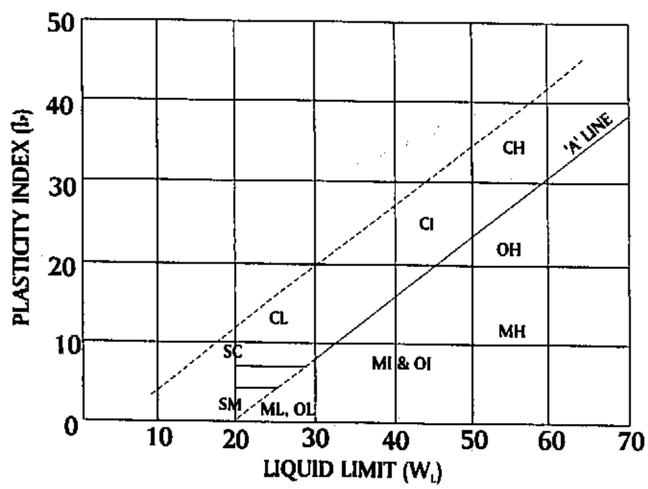
MODIFIED UNIFIED CLASSIFICATION SYSTEM FOR SOILS

MAJOR DIVISION			GROUP SYMBOL	GROUP SYMBOL	COLOR CODE	TYPICAL DESCRIPTION	LABORATORY CLASSIFICATION CRITERIA
COARSE-GRAINED SOILS (MORE THAN HALF BY WEIGHT LARGER THAN 80μm)	GRAVELS MORE THAN HALF COARSE GRAINS LARGER THAN 5MM	CLEAN GRAVELS (LITTLE OR NO FINES)	GW		RED	WELL GRADED GRAVELS, LITTLE OR NO FINES	$C_u = \frac{D_{60}}{D_{10}} > 6$ $C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}} = 1$ to 3
			GP		RED	POORLY GRADED GRAVELS, AND GRAVEL-SAND MIXTURES, LITTLE OR NO FINES	NOT MEETING ABOVE REQUIREMENTS
		DIRTY GRAVELS (WITH SOME FINES)	GM		YELLOW	SILTY GRAVELS, GRAVEL-SAND-SILT MIXTURES	CONTENT OF FINES EXCEEDS 12% — ATTERBERG LIMITS BELOW "A" LINE P.I. LESS THAN 4
			GC		YELLOW	CLAYEY GRAVELS, GRAVEL-SAND-(SILT) CLAY MIXTURES	CONTENT OF FINES EXCEEDS 12% — ATTERBERG LIMITS ABOVE "A" LINE P.I. MORE THAN 7
	SANDS MORE THAN HALF FINE GRAINS SMALLER THAN 5MM	CLEAN SANDS (LITTLE OR NO FINES)	SW		RED	WELL GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES	$C_u = \frac{D_{60}}{D_{10}} > 4$ $C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}} = 1$ to 3
			SP		RED	POORLY GRADED SANDS, LITTLE OR NO FINES	NOT MEETING ABOVE REQUIREMENTS
		DIRTY SANDS (WITH SOME FINES)	SM		YELLOW	SILTY SANDS, SAND-SILT MIXTURES	CONTENT OF FINES EXCEEDS 12% — ATTERBERG LIMITS BELOW "A" LINE P.I. LESS THAN 4
			SC		YELLOW	CLAYEY SANDS, SAND-(SILT) CLAY MIXTURES	CONTENT OF FINES EXCEEDS 12% — ATTERBERG LIMITS ABOVE "A" LINE P.I. MORE THAN 7
FINE-GRAINED SOILS (MORE THAN HALF BY WEIGHT PASSES 80μm)	SILTS BELOW "A" LINE NEGLIGIBLE ORGANIC CONTENT	$W_L < 50\%$	ML		GREEN	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY SANDS OF SLIGHT PLASTICITY	CLASSIFICATION IS BASED UPON PLASTICITY CHART (SEE BELOW)
		$W_L > 50\%$	MH		BLUE	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS, FINE SANDY OR SILTY SOILS	
	CLAYS ABOVE "A" LINE ON PLASTICITY CHART NEGLIGIBLE ORGANIC CONTENT	$W_L < 30\%$	CL		GREEN	INORGANIC CLAYS OF LOW PLASTICITY, GRAVELLY, SANDY, OR SILTY CLAYS, LEAN CLAYS	
		$30\% < W_L < 50\%$	CI		GREEN-BLUE	INORGANIC CLAYS OF MEDIUM PLASTICITY, SILTY CLAYS	
		$W_L > 50\%$	CH		BLUE	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS	
	ORGANIC SILTS & CLAYS BELOW "A" LINE ON CHART	$W_L < 50\%$	OL		GREEN	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY	WHENEVER THE NATURE OF THE FINE CONTENT HAS NOT BEEN DETERMINED, IT IS DESIGNATED BY THE LETTER "F", E.G. SF IS A MIXTURE OF SAND WITH SILT OR CLAY
		$W_L > 50\%$	OH		BLUE	ORGANIC CLAYS OF HIGH PLASTICITY	
HIGHLY ORGANIC SOILS			Pt		ORANGE	PEAT AND OTHER HIGHLY ORGANIC SOILS	STRONG COLOR OR ODOR, AND OFTEN FIBROUS TEXTURE

BEDROCK SYMBOLS



PLASTICITY CHART



SABATINI EARTH TECHNOLOGIES INC.

SABATINI EARTH TECHNOLOGIES INC.

CLIENT:	Mountain Engineering Ltd.		TEST HOLE No. 1
PROJECT:	Proposed Residential Development		
LOCATION:	Restwell Trailer Park, Canmore		
JOB No.:	0205-3583		
DATE:	May 10, 2002	TECH: Tw/ps	

MOISTURE CONDITIONS ATTERBERG LIMITS — MOISTURE CONTENT % (10, 20, 30, 40, 50, 60)

SOIL PROFILE & DESCRIPTION — SURFACE ELEVATION:

TEST RESULTS

Moisture content (plotted)	DEPTH IN FEET	DEPTH IN METRES	SOIL PROFILE & DESCRIPTION	SOIL SYMBOL	SAMPLE TYPE	BLOW COUNT N	MISCELLANEOUS TESTS
⊙		0–1	FILL - clay, silty, gravelly, moist, dark brown - @ 0.3m, coal, ashes, black	Fill	B		
⊙	5	1–2	GRAVEL - sandy, medium dense, well graded - moist	Gravel	B		SO_4=0.106%
⊙		2–3	@ 1.8m, saturated	Gravel	B		
	10	3	END OF HOLE @ 3.1 m 50mm slotted PVC pipe, sand and bentonite				

Depth scale: feet 5, 10, 15, 20, 25, 30; metres 1, 2, 3, 4, 5, 6, 7, 8, 9, 10

MOISTURE CONTENT ⊙ LIQUID LIMIT ⊡ PLASTIC LIMIT △	Qu UNCONFINED COMPRESSION g_d DRY UNIT WEIGHT	SO_4 SULPHATE CONTENT ▽ WATER TABLE N PENETRATION RESISTANCE	⊠ STANDARD PENETRATION SAMPLE ⧅ UNDISTURBED SAMPLE (SHELBY) B BAG SAMPLE

PLATE No. 1

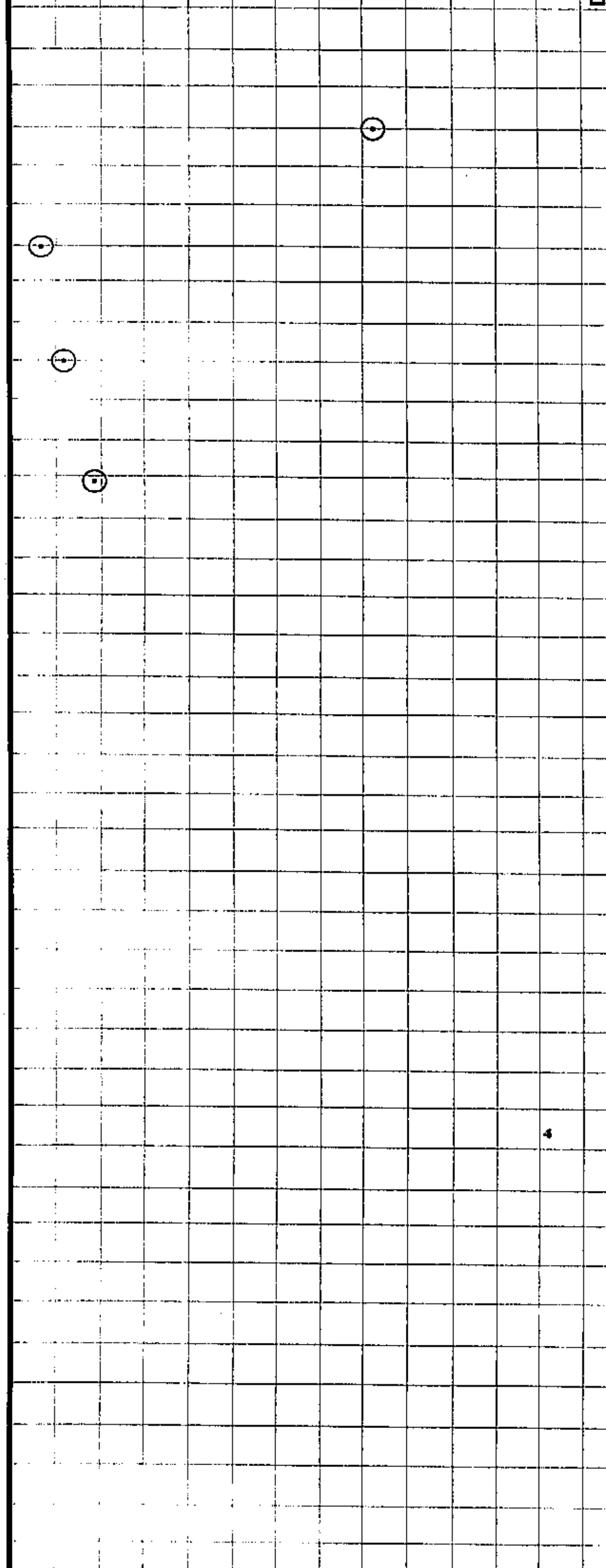
SABATINI EARTH TECHNOLOGIES INC.

CLIENT:	Mountain Engineering Ltd.		
PROJECT:	Proposed Residential Development		
LOCATION:	Restwell Trailer Park, Canmore		TEST HOLE No. 2
JOB No.:	0205-3583		
DATE:	May 10, 2002	TECH: Tw/ps	

MOISTURE CONDITIONS ATTERBERG LIMITS

MOISTURE CONTENT %

10 20 30 40 50 60



SOIL PROFILE & DESCRIPTION

DEPTH IN FEET	DEPTH IN METRES	SURFACE ELEVATION:	SOIL SYMBOL	SAMPLE TYPE	BLOW N COUNT	MISCELLANEOUS TESTS
		FILL - silt, some gravel - moist to very moist - rusty brown to black		B		
	1					
5		GRAVEL - sandy, medium dense, well graded - moist		B		SO_4=0.116%
	2	@ 2.2m, saturated		B		
10	3			B		SO_4=0.156%
	4	END OF HOLE @ 3.8 m 50mm slotted PVC pipe, sand and bentonite				
15	5					
20	6					
	7					
25	8					
30	9					
	10					

MOISTURE CONTENT ⊙ LIQUID LIMIT ⊡ PLASTIC LIMIT △	Qu UNCONFINED COMPRESSION g_d DRY UNIT WEIGHT	SO_4 SULPHATE CONTENT ▽ WATER TABLE N PENETRATION RESISTANCE	☒ STANDARD PENETRATION SAMPLE ⧅ UNDISTURBED SAMPLE (SHELBY) B BAG SAMPLE

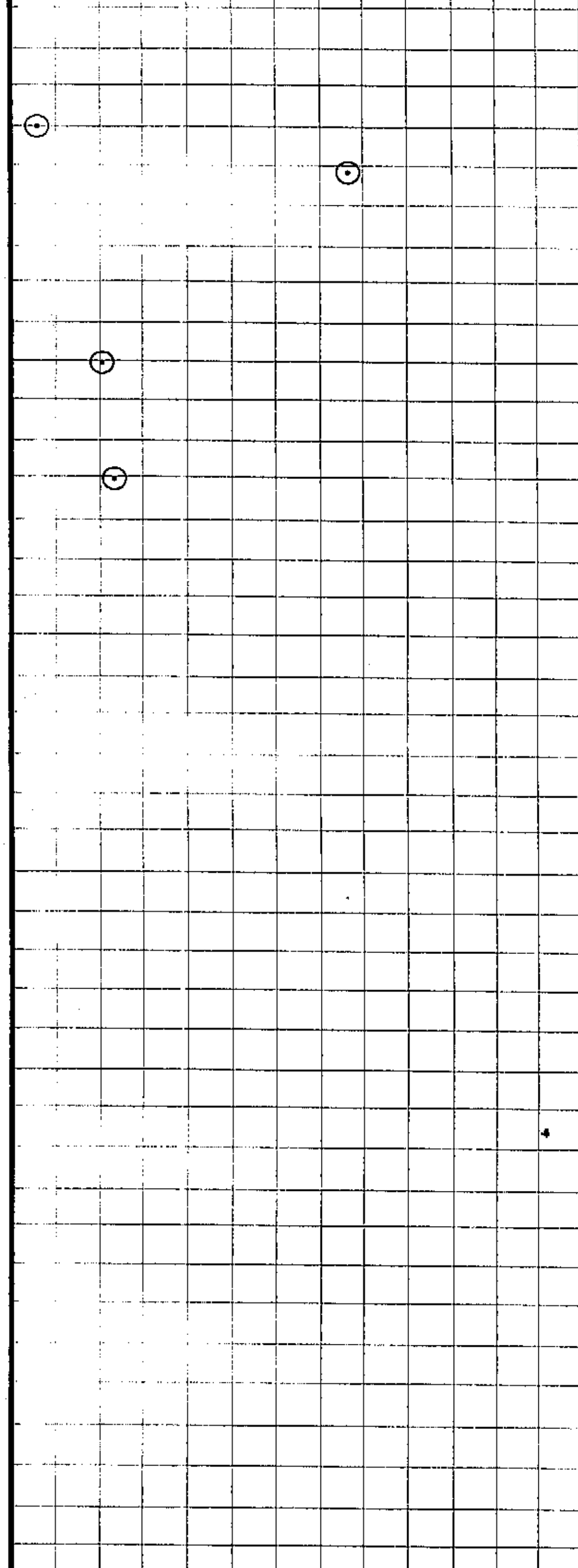
PLATE No. 2

SABATINI EARTH TECHNOLOGIES INC.

CLIENT:	Mountain Engineering Ltd.		
PROJECT:	Proposed Residential Development		
LOCATION:	Restwell Trailer Park, Canmore		TEST HOLE No. 3
JOB No.:	0205-3583		
DATE:	May 10, 2002	TECH: Tw/ps	

MOISTURE CONDITIONS ATTERBERG LIMITS

MOISTURE CONTENT %



SOIL PROFILE & DESCRIPTION

SURFACE ELEVATION:

DEPTH IN METRES	SOIL	DESCRIPTION	SAMPLE TYPE	BLOW COUNT N	MISCELLANEOUS TESTS
0 – ~0.9	FILL	- gravel, silty, sandy - moist	B		
~0.9 – ~1.5	SILT	- clayey - moist, low plastic, firm - light brown	B		SO_4=0.052%
~1.5 – 3.8	GRAVEL	- silty, sandy, medium dense, well graded - rust coloured, moist @ 2.4m, saturated - dense, grey to brown	B B		

END OF HOLE @ 3.8 m
50mm slotted PVC pipe, sand and bentonite

Depth scales: DEPTH IN FEET 5, 10, 15, 20, 25, 30; DEPTH IN METRES 1, 2, 3, 4, 5, 6, 7, 8, 9, 10

TEST RESULTS

MOISTURE CONTENT ⊙ LIQUID LIMIT ⊡ PLASTIC LIMIT △	Qu UNCONFINED COMPRESSION g_d DRY UNIT WEIGHT	SO_4 SULPHATE CONTENT WATER TABLE N PENETRATION RESISTANCE	⊠ STANDARD PENETRATION SAMPLE ⧄ UNDISTURBED SAMPLE (SHELBY) B BAG SAMPLE	PLATE No. 3	

SABATINI EARTH TECHNOLOGIES INC.

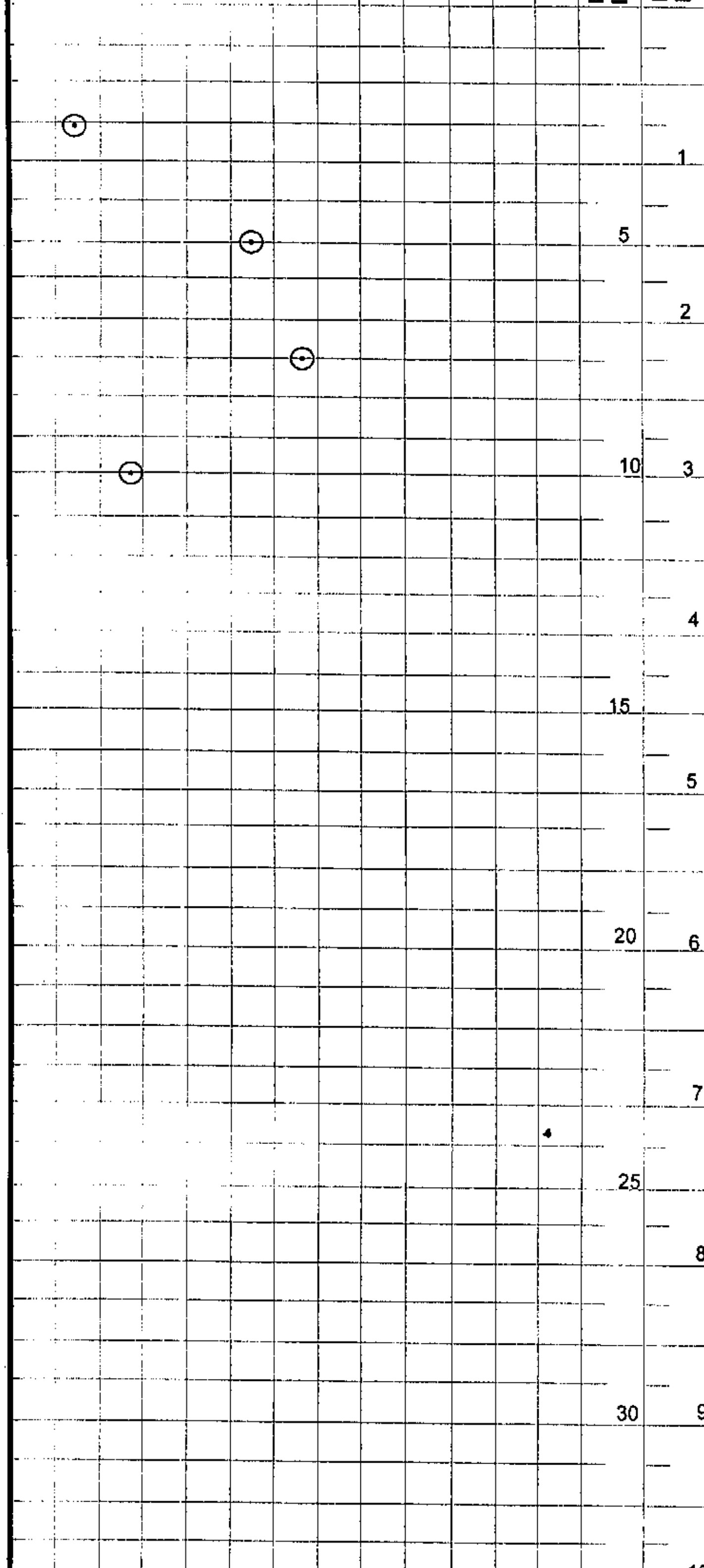
CLIENT:	Mountain Engineering Ltd.
PROJECT:	Proposed Residential Development
LOCATION:	Restwell Trailer Park, Canmore
JOB No.:	0205-3583
DATE:	May 10, 2002
TECH:	Tw/ps

TEST HOLE No. 4

MOISTURE CONDITIONS ATTERBERG LIMITS

MOISTURE CONTENT %

10 20 30 40 50 60



SOIL PROFILE & DESCRIPTION

SURFACE ELEVATION:

Depth	Soil	Description	Sample Type	Blow N Count	Miscellaneous Tests
	TOPSOIL	- +/- 100mm			
	FILL	- gravel, silty, sandy - moist, light brown	B		
	TOPSOIL	- grey-black to brown - moist, organic	B		SO_4=0.188%
	SILT	- clayey - moist, soft to firm - low plastic, brown	B		PP=100kPa
	GRAVEL	- sandy, medium dense, well graded - saturated	B		SO_4=0.166%

END OF HOLE @ 3.8 m
50mm slotted PVC pipe, sand and bentonite

TEST RESULTS

MOISTURE CONTENT ⊙ LIQUID LIMIT ⊡ PLASTIC LIMIT △	Qu UNCONFINED COMPRESSION g_d DRY UNIT WEIGHT	SO_4 SULPHATE CONTENT ▽ WATER TABLE N PENETRATION RESISTANCE	⊠ STANDARD PENETRATION SAMPLE ⧄ UNDISTURBED SAMPLE (SHELBY) B BAG SAMPLE	PLATE No. 4

SABATINI EARTH TECHNOLOGIES INC.

CLIENT: Mountain Engineering Ltd.
PROJECT: Proposed Residential Development
LOCATION: Restwell Trailer Park, Canmore
JOB No.: 0205-3583
DATE: May 10, 2002
TECH: Tw/ps

TEST HOLE No. 5

MOISTURE CONDITIONS ATTERBERG LIMITS

MOISTURE CONTENT %: 10 20 30 40 50 60

SOIL PROFILE & DESCRIPTION

TEST RESULTS

SURFACE ELEVATION:

Depth (m)	Description	Soil Symbol	Sample Type	Blow N Count	Miscellaneous Tests
0 – 0.05	TOPSOIL - +/- 50mm				
to ~1.2	FILL - gravel, silty, sandy - moist, light brown	☒	B		
~1.2 – 2.8	SILT - grey-black - firm to stiff, organic - moist to saturated - low plastic		B		SO_4=0.190% PP=100kPa
			B		
~2.8 – 3.8	GRAVEL - sandy, medium dense, well graded - saturated		B		SO_4=0.162%

END OF HOLE @ 3.8 m
50mm slotted PVC pipe, sand and bentonite

DEPTH IN FEET: 5, 10, 15, 20, 25, 30
DEPTH IN METRES: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10

MOISTURE CONTENT ⊙   LIQUID LIMIT ⊡   PLASTIC LIMIT △
Qu UNCONFINED COMPRESSION g_d DRY UNIT WEIGHT
SO_4 SULPHATE CONTENT   WATER TABLE   N PENETRATION RESISTANCE
STANDARD PENETRATION SAMPLE   UNDISTURBED SAMPLE (SHELBY)   [B] BAG SAMPLE

PLATE No. 5

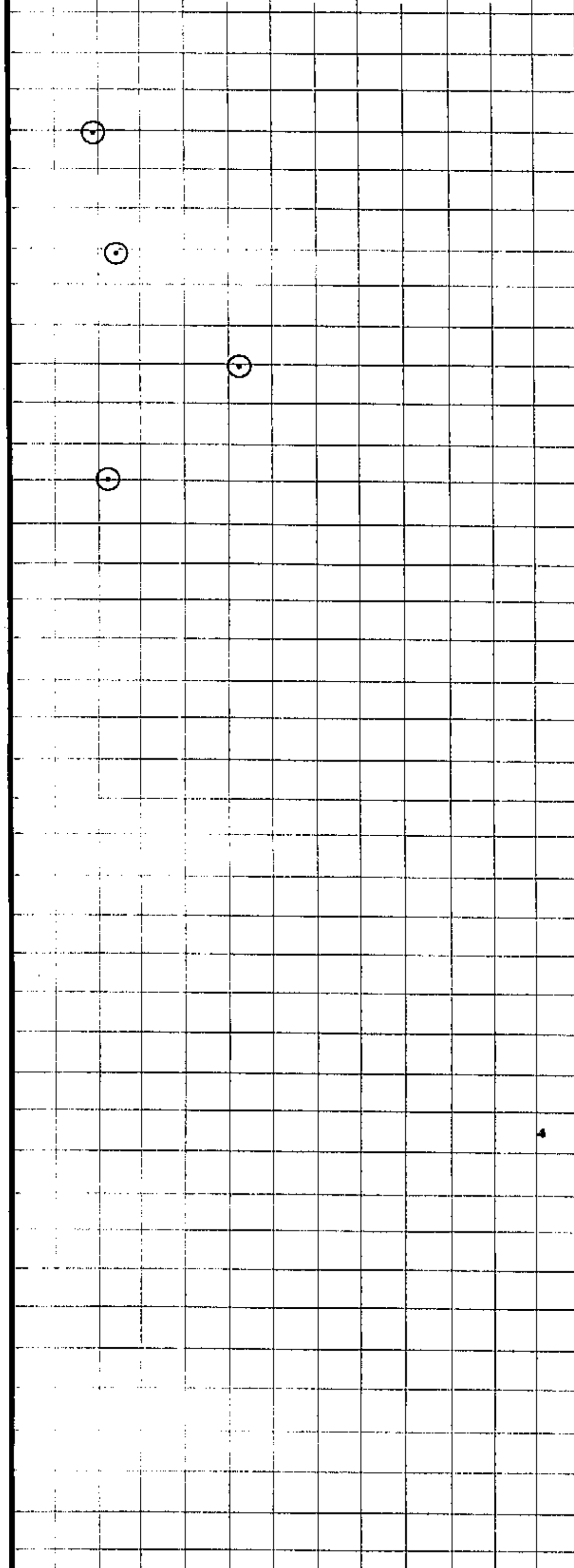
SABATINI EARTH TECHNOLOGIES INC.

CLIENT:	Mountain Engineering Ltd.	
PROJECT:	Proposed Residential Development	
LOCATION:	Restwell Trailer Park, Canmore	TEST HOLE No. 6
JOB No.:	0205-3583	
DATE:	May 10, 2002	TECH: Tw/ps

MOISTURE CONDITIONS ATTERBERG LIMITS

MOISTURE CONTENT %

10 20 30 40 50 60



SOIL PROFILE & DESCRIPTION — DEPTH IN FEET / DEPTH IN METRES — SURFACE ELEVATION:

TEST RESULTS — SOIL SYMBOL / SAMPLE TYPE / BLOW COUNT N / MISCELLANEOUS TESTS

Depth (m)	Soil	Description	Sample Type	Miscellaneous Tests
0 – ~0.9	FILL	- gravel, silty, sandy - moist, light brown	B	
~0.9 – ~2.7	SILT	- sandy, clayey - brown to grey, firm @ 1.5m, very sandy, light brown, moist @ 2m, very clayey, low plastic, soft saturated	B B	SO_4=0.174% PP=50kPa
~2.7 – 3.8	GRAVEL	- sandy, medium dense, well graded - saturated - layered with medium grained sand layers	B	SO_4=0.146%

END OF HOLE @ 3.8 m
50mm slotted PVC pipe, sand and bentonite

Depth in feet: 5, 10, 15, 20, 25, 30
Depth in metres: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10

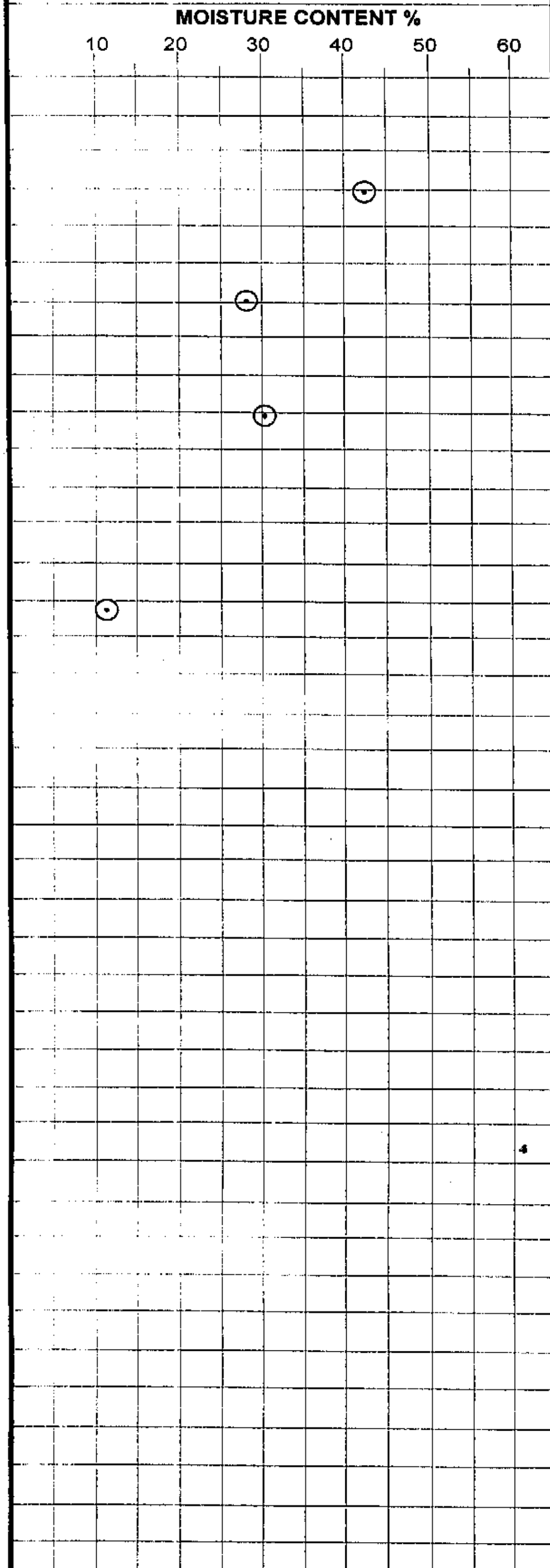
MOISTURE CONTENT ⊙ LIQUID LIMIT ⊡ PLASTIC LIMIT △	Qu UNCONFINED COMPRESSION γ_d DRY UNIT WEIGHT	SO_4 SULPHATE CONTENT WATER TABLE N PENETRATION RESISTANCE	☒ STANDARD PENETRATION SAMPLE ⧅ UNDISTURBED SAMPLE (SHELBY) [B] BAG SAMPLE

PLATE No. 6

SABATINI EARTH TECHNOLOGIES INC.

CLIENT:	Mountain Engineering Ltd.
PROJECT:	Proposed Residential Development
LOCATION:	Restwell Trailer Park, Canmore
JOB No.:	0205-3583
DATE:	May 10, 2002
TECH:	Tw/ps
TEST HOLE	No. 7

MOISTURE CONDITIONS ATTERBERG LIMITS



SOIL PROFILE & DESCRIPTION / TEST RESULTS

SURFACE ELEVATION:

DEPTH IN FEET	DEPTH IN METRES	SOIL PROFILE & DESCRIPTION	SAMPLE TYPE	BLOW COUNT N	MISCELLANEOUS TESTS
		FILL - silt, some gravel - low to medium plastic - moist, light brown			
		SILT - clayey - light brown, firm - low plastic	B		PP=100kPa
5	1		B		SO_4=0.138% PP=50kPa
	2		B		
10	3	GRAVEL - sandy - medium dense, well graded - saturated			SO_4=0.150%
			B		
	4	END OF HOLE @ 3.7 m 50mm slotted PVC pipe, sand and bentonite			
15	5				
20	6				
	7				
25	8				
30	9				
	10				

MOISTURE CONTENT ⊙
LIQUID LIMIT ⊡
PLASTIC LIMIT △

Qu UNCONFINED COMPRESSION
g_d DRY UNIT WEIGHT

SO_4 SULPHATE CONTENT
WATER TABLE
N PENETRATION RESISTANCE

⊠ STANDARD PENETRATION SAMPLE
⧅ UNDISTURBED SAMPLE (SHELBY)
B BAG SAMPLE

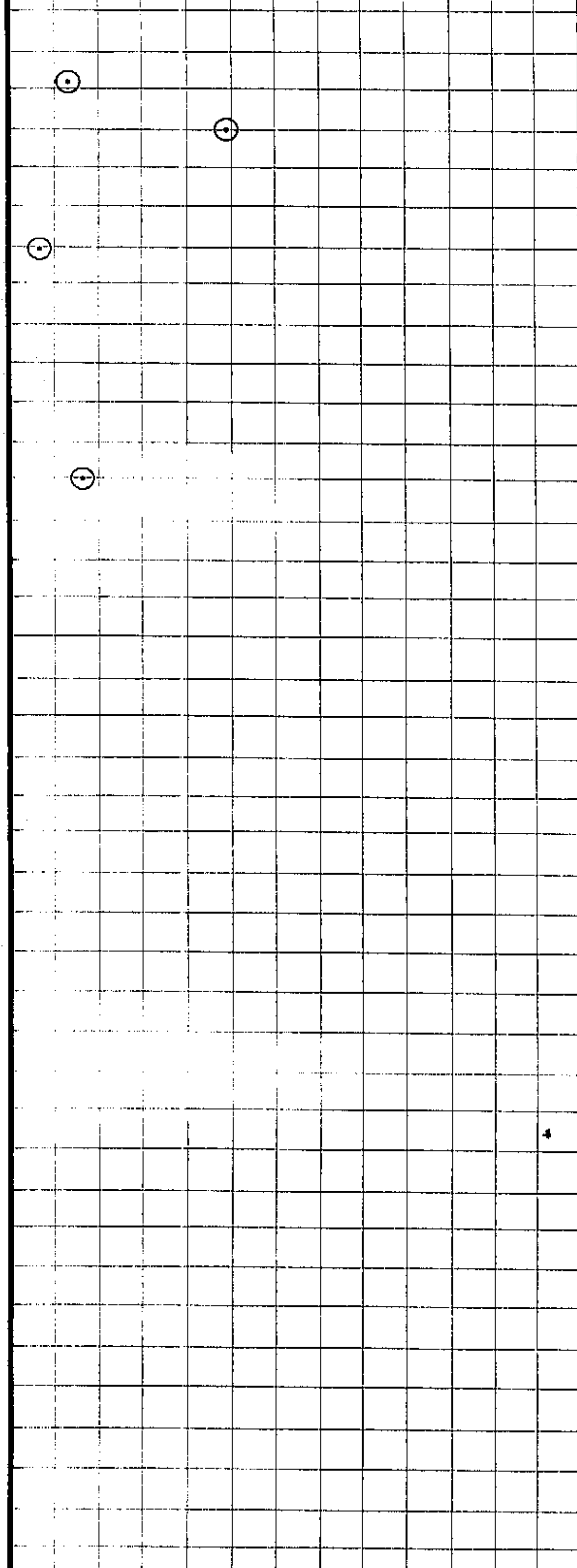
PLATE No. 7

SABATINI EARTH TECHNOLOGIES INC.

CLIENT:	Mountain Engineering Ltd.
PROJECT:	Proposed Residential Development
LOCATION:	Restwell Trailer Park, Canmore
JOB No.:	0205-3583
DATE:	May 10, 2002
TECH:	Tw/ps
TEST HOLE No.	8

MOISTURE CONDITIONS ATTERBERG LIMITS

MOISTURE CONTENT %



SOIL PROFILE & DESCRIPTION

SURFACE ELEVATION:

Depth (m)	Description	Sample Type	Blow Count N	Miscellaneous Tests
0 – ~0.6	FILL - gravel, silty, sandy - moist	B		
~0.6	TOPSOIL			
~0.7 – ~1.2	SILT - sandy, clayey - light brown, firm - moist, low plastic	B		
~1.2 – 3.8	GRAVEL - sandy - medium dense, well graded - moist; @2m, - saturated	B		SO_4=0.150%
		B		SO_4=0.176%

END OF HOLE @ 3.8 m
50mm slotted PVC pipe, sand and bentonite

Depth in feet: 5, 10, 15, 20, 25, 30
Depth in metres: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10

MOISTURE CONTENT ⊙ LIQUID LIMIT ⊡ PLASTIC LIMIT △	Qu UNCONFINED COMPRESSION g_d DRY UNIT WEIGHT	SO_4 SULPHATE CONTENT WATER TABLE N PENETRATION RESISTANCE	☒ STANDARD PENETRATION SAMPLE UNDISTURBED SAMPLE (SHELBY) B BAG SAMPLE

PLATE No. 8

SABATINI EARTH TECHNOLOGIES INC.

CLIENT:	Mountain Engineering Ltd.	
PROJECT:	Proposed Residential Development	
LOCATION:	Restwell Trailer Park, Canmore	TEST HOLE No. 9
JOB No.:	0205-3583	
DATE:	July 9, 2002	TECH: PS

MOISTURE CONDITIONS ATTERBERG LIMITS — MOISTURE CONTENT % (10, 20, 30, 40, 50, 60)

SOIL PROFILE & DESCRIPTION — SURFACE ELEVATION:

TEST RESULTS

Moisture content %	Depth in feet	Depth in metres	Soil description	Sample type	Blow N count	Miscellaneous tests
			TOPSOIL - black, organic, forest litter			
~12		1	SAND - silty, fine-grained, brown, moist	B		SO_4=0.194%
~30 NON PLASTIC	5		SILT - clayey, brown-grey mottled - firm, low to non-plastic	B		
~32		2	CLAY - silty, low to medium plastic - brown-grey mottled - firm, very moist to saturated	B		SO_4=0.168%
	10	3	GRAVEL - cobbles, free water - sandy, medium dense			

END OF HOLE @ 3.4 m
50mm slotted PVC pipe

Depth scale: feet 5, 10, 15, 20, 25, 30; metres 1–10

MOISTURE CONTENT ⊙	Qu UNCONFINED COMPRESSION	SO_4 SULPHATE CONTENT	☒ STANDARD PENETRATION SAMPLE
LIQUID LIMIT ⊡	g_d DRY UNIT WEIGHT	WATER TABLE	UNDISTURBED SAMPLE (SHELBY)
PLASTIC LIMIT △		N PENETRATION RESISTANCE	B BAG SAMPLE

PLATE No. 9

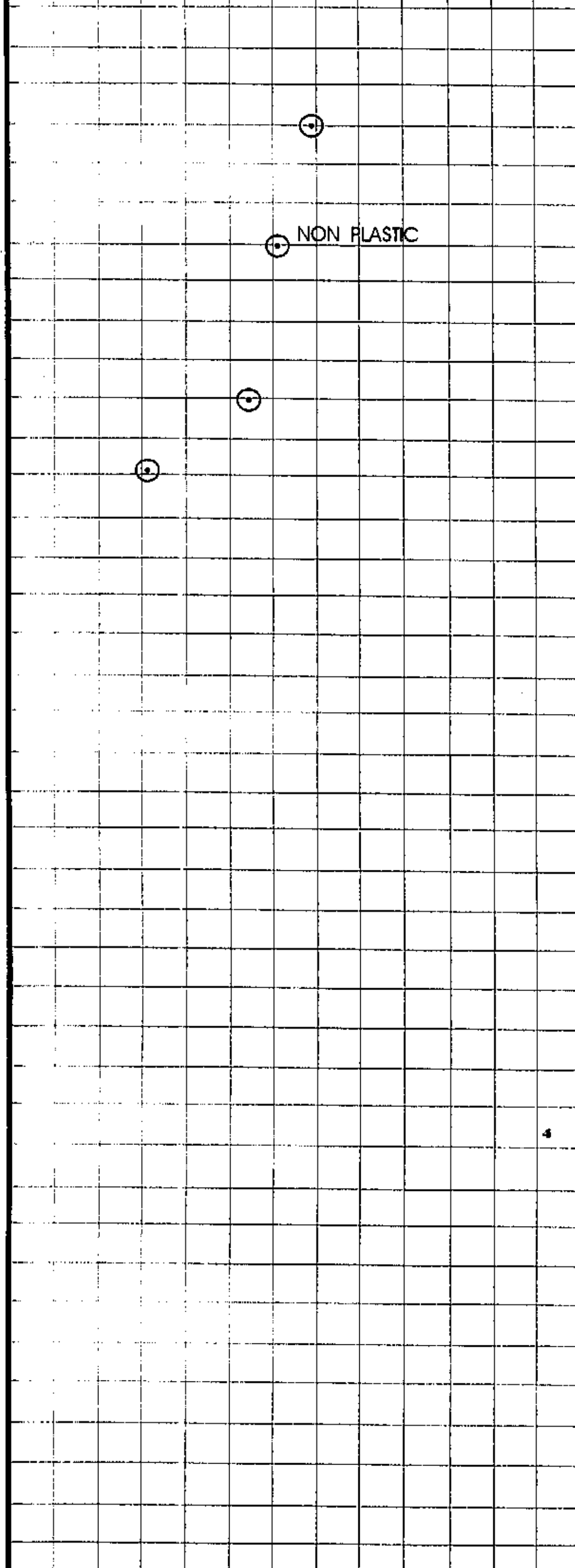
SABATINI EARTH TECHNOLOGIES INC.

CLIENT:	Mountain Engineering Ltd.		
PROJECT:	Proposed Residential Development		
LOCATION:	Restwell Trailer Park, Canmore		TEST HOLE No. 10
JOB No.:	0205-3583		
DATE:	July 9, 2002	TECH: PS	

MOISTURE CONDITIONS ATTERBERG LIMITS

MOISTURE CONTENT %

10 20 30 40 50 60



SOIL PROFILE & DESCRIPTION

SURFACE ELEVATION:

DEPTH IN FEET	DEPTH IN METRES	SOIL PROFILE & DESCRIPTION	SAMPLE TYPE	BLOW N COUNT	MISCELLANEOUS TESTS
		TOPSOIL - black, organic, forest litter			
		SILT - some sand and clay - brown, moist - low to non-plastic - firm - organic streaks	B		SO_4=0.16%
5	1	- @5', becoming very moist	B		
	2	- @7', mottled grey-brown	B		
10	3	GRAVEL - very silty and sandy from 10-10.5' - sandy, cobbles, free water	B		SO_4=0.198%
		END OF HOLE @ 3.4 m 50mm slotted PVC pipe			

Depth scale: 5, 10, 15, 20, 25, 30 (feet); 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 (metres)

MOISTURE CONTENT ⊙ LIQUID LIMIT ⊡ PLASTIC LIMIT △	Qu UNCONFINED COMPRESSION g_d DRY UNIT WEIGHT	SO_4 SULPHATE CONTENT WATER TABLE N PENETRATION RESISTANCE	⊠ STANDARD PENETRATION SAMPLE UNDISTURBED SAMPLE (SHELBY) B BAG SAMPLE

PLATE No. 10

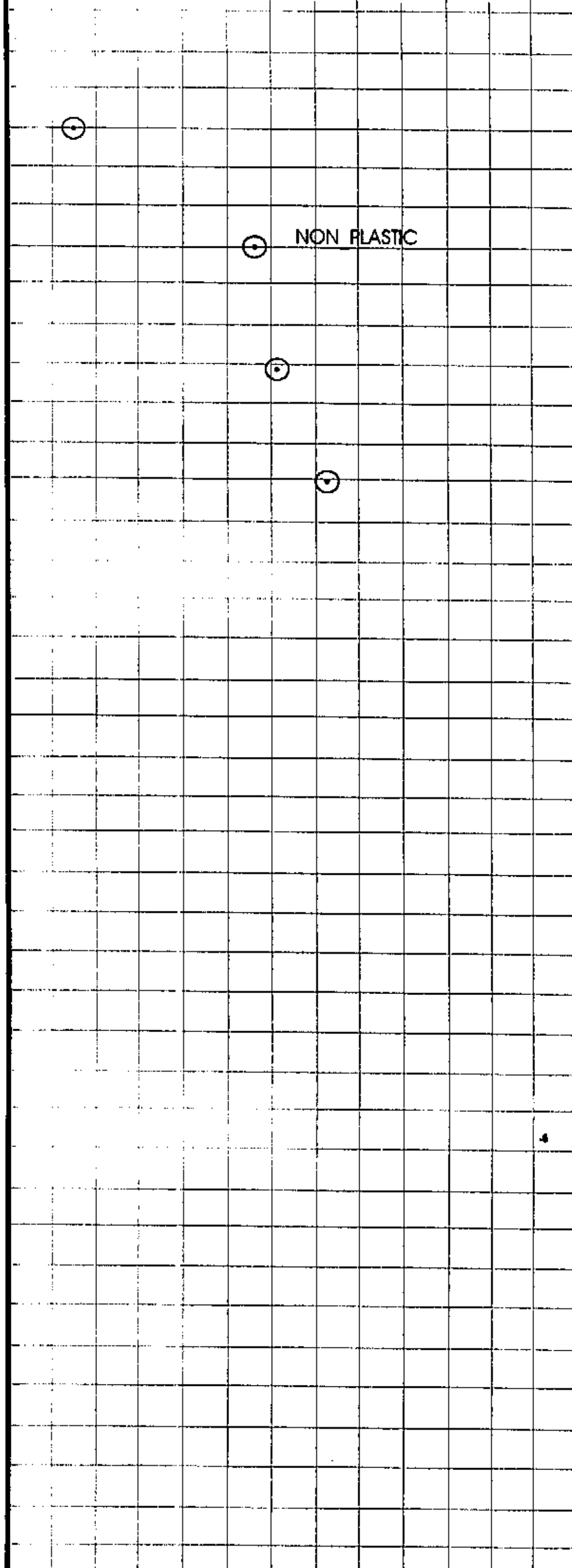
SABATINI EARTH TECHNOLOGIES INC.

CLIENT:	Mountain Engineering Ltd.
PROJECT:	Proposed Residential Development
LOCATION:	Restwell Trailer Park, Canmore
JOB No.:	0205-3583
DATE:	July 9, 2002
TECH:	PS

TEST HOLE No. 11

MOISTURE CONDITIONS ATTERBERG LIMITS

MOISTURE CONTENT %



SOIL PROFILE & DESCRIPTION

TEST RESULTS

DEPTH IN FEET	DEPTH IN METRES	SURFACE ELEVATION:	SOIL SYMBOL	SAMPLE TYPE	BLOW N COUNT	MISCELLANEOUS TESTS
		TOPSOIL - black, organic, forest litter				
		SILT - some sand and clay - brown, moist - low to non-plastic - firm - fine sandy lenses @ 2.5'		B		SO_4=0.164%
	1					
5				B		
	2			B		
		- @8', saturated				
10	3			B		SO_4=0.192%
		GRAVEL - sandy, free water, cobbles				
		END OF HOLE @ 3.4 m 50mm slotted PVC pipe				
	4					
15						
	5					
20	6					
	7					
25						
	8					
30	9					
	10					

MOISTURE CONTENT ⊙ LIQUID LIMIT ⊡ PLASTIC LIMIT △	Qu UNCONFINED COMPRESSION γ_d DRY UNIT WEIGHT	SO_4 SULPHATE CONTENT ▽ WATER TABLE N PENETRATION RESISTANCE	⊠ STANDARD PENETRATION SAMPLE ⧄ UNDISTURBED SAMPLE (SHELBY) B BAG SAMPLE

PLATE No. 11

Sabatini Earth Technologies Inc.

6919 32nd Avenue N.W. Calgary, Alberta T3B 0K6
Tel:(403)247-1816 FAX:(403)247-1814

Proctor Report

Report Date: 24-May-202
Project Number: 0205-3577
Report Number: 3346

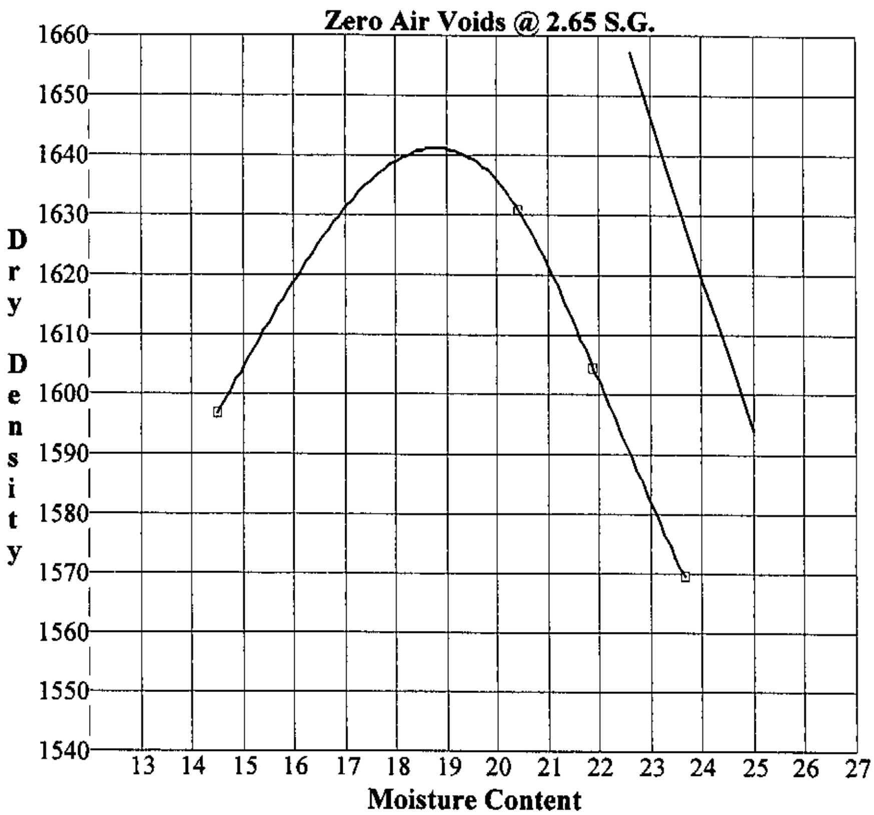
To: Mountain Engineering

Copies To: Client

Proj: Restwell Trailer Park

Sample Type: Bulk
Sampled By: PS
Source: Site
Tested By: KM

Sample Date: 13-May-202 | Date Tested: 21-May-202 | Date Received: 14-May-202



Percent Oversize	Optimum Moisture	Max Dry Density
0	18.8	1641
10	17.1	1706
20	15.3	1776
30	13.6	1853
40	11.9	1936
50	10.2	2027

Moisture Content	Dry Density	Wet Density
14.5	1597	1828
20.4	1631	1964
21.9	1604	1956
23.7	1569	1941

Method: A
Rammer Type: Flat
Preparation: ASTM D 698
% Retained 5 mm: 0.0
% Retained 10 mm: 0.0
% Retained 20 mm: 0.0

Sample Description: Clay

Comment: Proctor for CBR

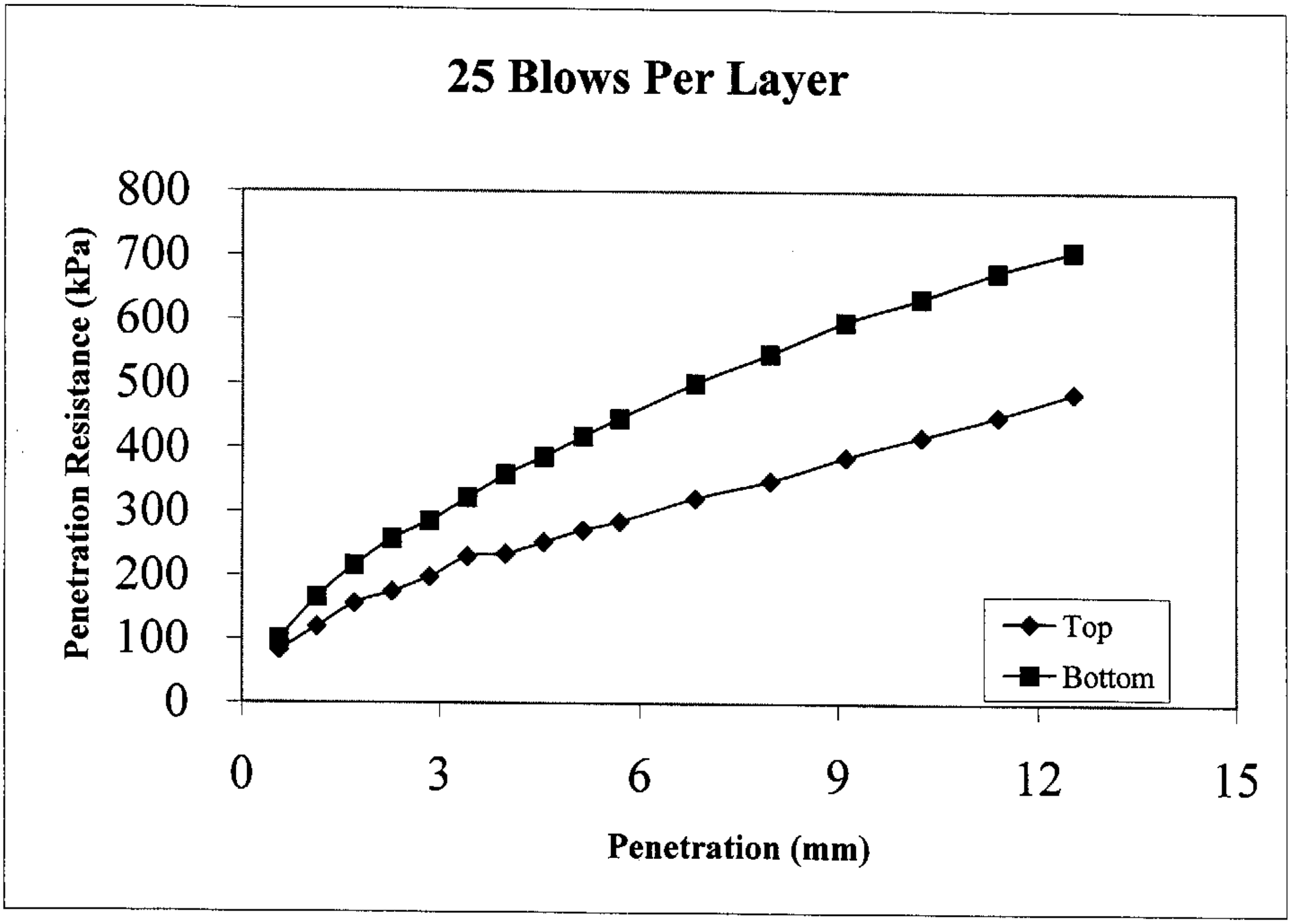
Per: Greg Sherwood

Reporting of these test results constitutes a testing service only. Engineering interpretation or evaluation of test results is provided only on written request.

Sabatini Earth Technologies Inc.

California Bearing Ratio Test

Client:	Mountain Engineering	**Project:**	Restwell Trailer Park
Job No.	0205-3577	**Technician:**	GS
Soil Description:	Clay	**Date:**	June 5, 2002



Moisture Before Soaking:	20.1%	Densities (kg/m3):	Wet:	1862	Dry:	1551
Moisture After Soaking:	24.2%	Densities (kg/m3):	Wet:	1941	Dry:	1562

Penetration (mm):	Penetration Resistance (kPa)				CBR Value			
2.5	Top:	184	Bottom:	268	Top:	2.66	Bottom:	3.88
5.0	Top:	267	Bottom:	411	Top:	2.59	Bottom:	3.99

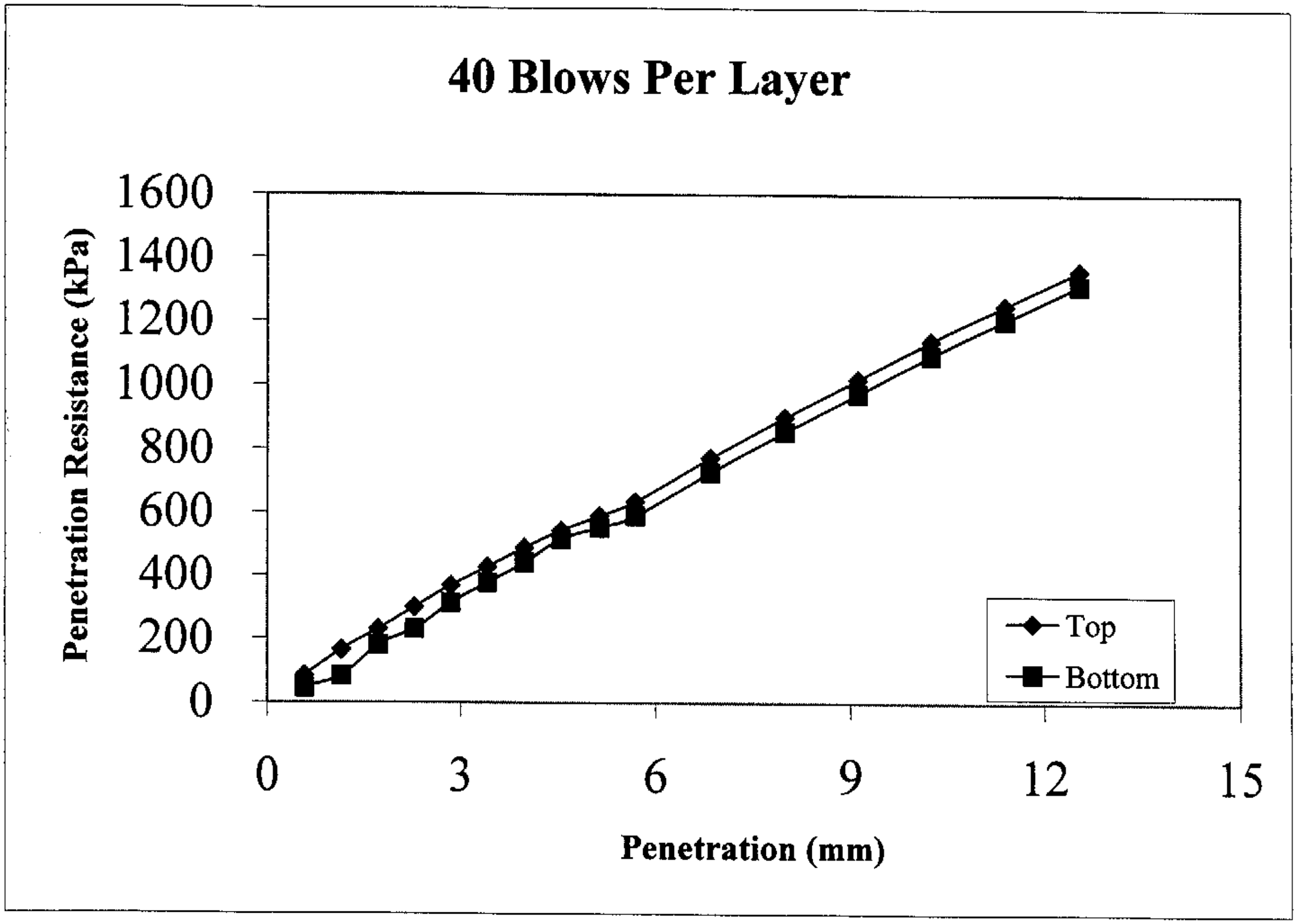
25 Blows per layer @	94.5%	Proctor Density

Average CBR Value:	3.28

Sabatini Earth Technologies Inc.

California Bearing Ratio Test

Client:	Mountain Engineering	**Project:**	Restwell Trailer Park
Job No.	0205-3577	**Technician:**	GS
Soil Description:	Clay	**Date:**	June 5, 2002



Moisture Before Soaking:	19.92%	Densities (kg/m3):	Wet:	1987	Dry:	1657
Moisture After Soaking:	22.17%	Densities (kg/m3):	Wet:	2021	Dry:	1655

Penetration (mm):	Penetration Resistance (kPa)				CBR Value			
2.5	Top:	325	Bottom:	262	Top:	4.71	Bottom:	3.79
5.0	Top:	578	Bottom:	543	Top:	5.61	Bottom:	5.27

40 Blows per layer @	101.0%	Proctor Density

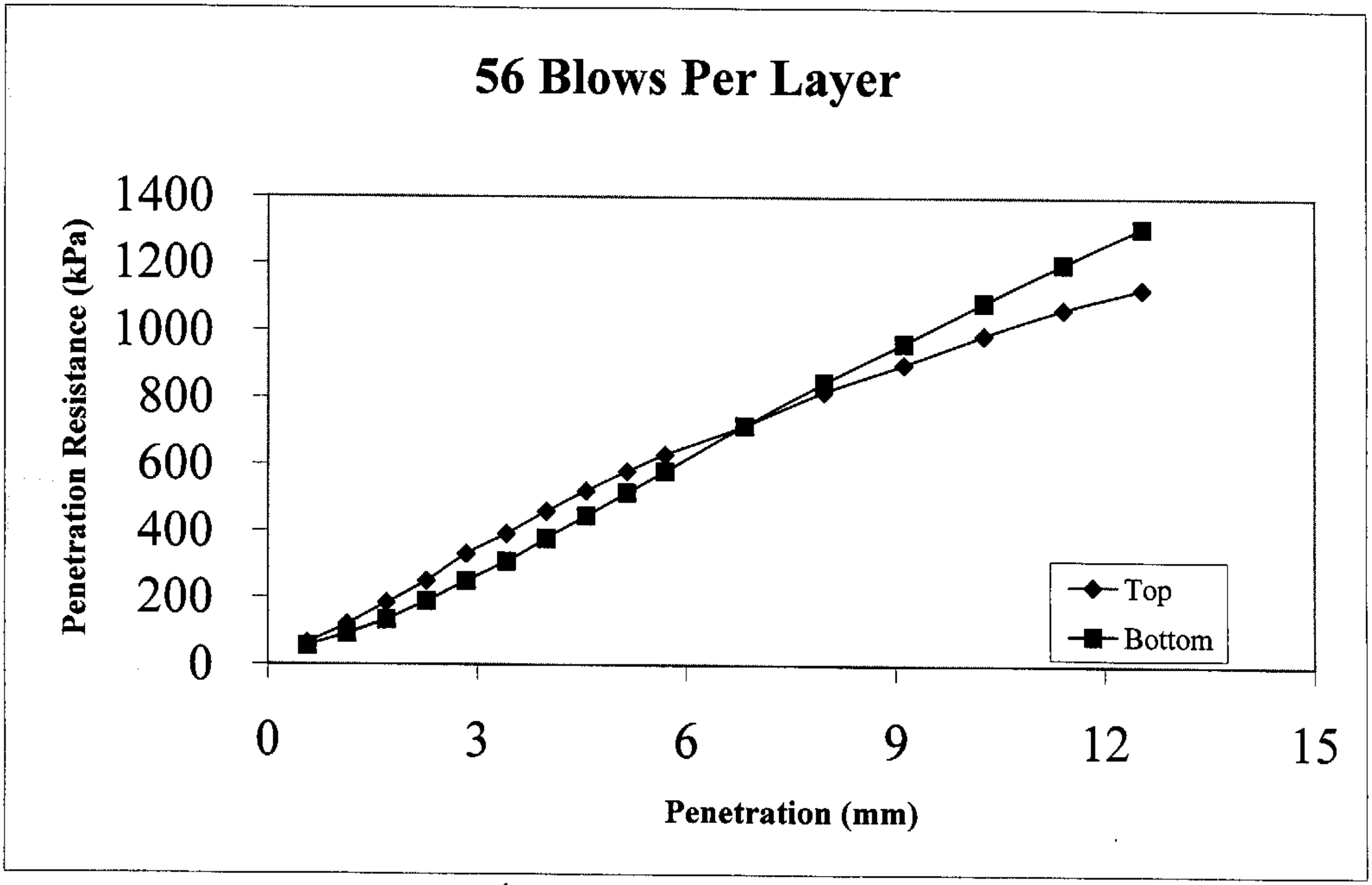
Average CBR Value:	4.85

Plate **14**

Sabatini Earth Technologies Inc.

California Bearing Ratio Test

Client:	Mountain Engineering	**Project:**	Restwell Trailer Park
Job No.	0205-3577	**Technician:**	GS
Soil Description:	Clay	**Date:**	June 5, 2002



Moisture Before Soaking:	20.0%	Densities (kg/m3):	Wet:	1993	Dry:	1661
Moisture After Soaking:	22.1%	Densities (kg/m3):	Wet:	2027	Dry:	1661

Penetration (mm):	Penetration Resistance (kPa)				CBR Value			
2.5	Top:	280	Bottom:	211	Top:	4.06	Bottom:	3.07
5.0	Top:	565	Bottom:	499	Top:	5.49	Bottom:	4.84

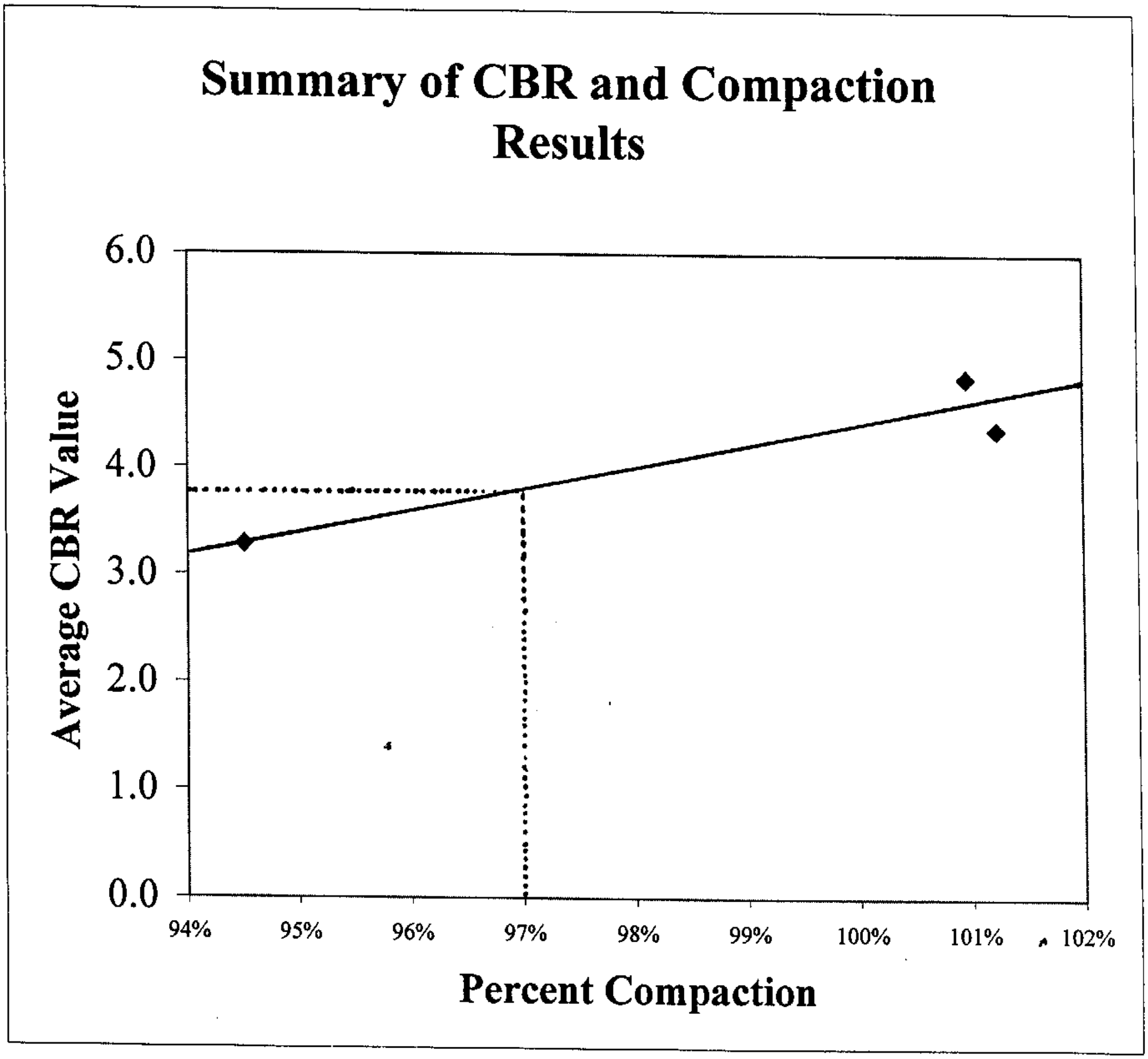
56 Blows per layer @ 101.2% Proctor Density

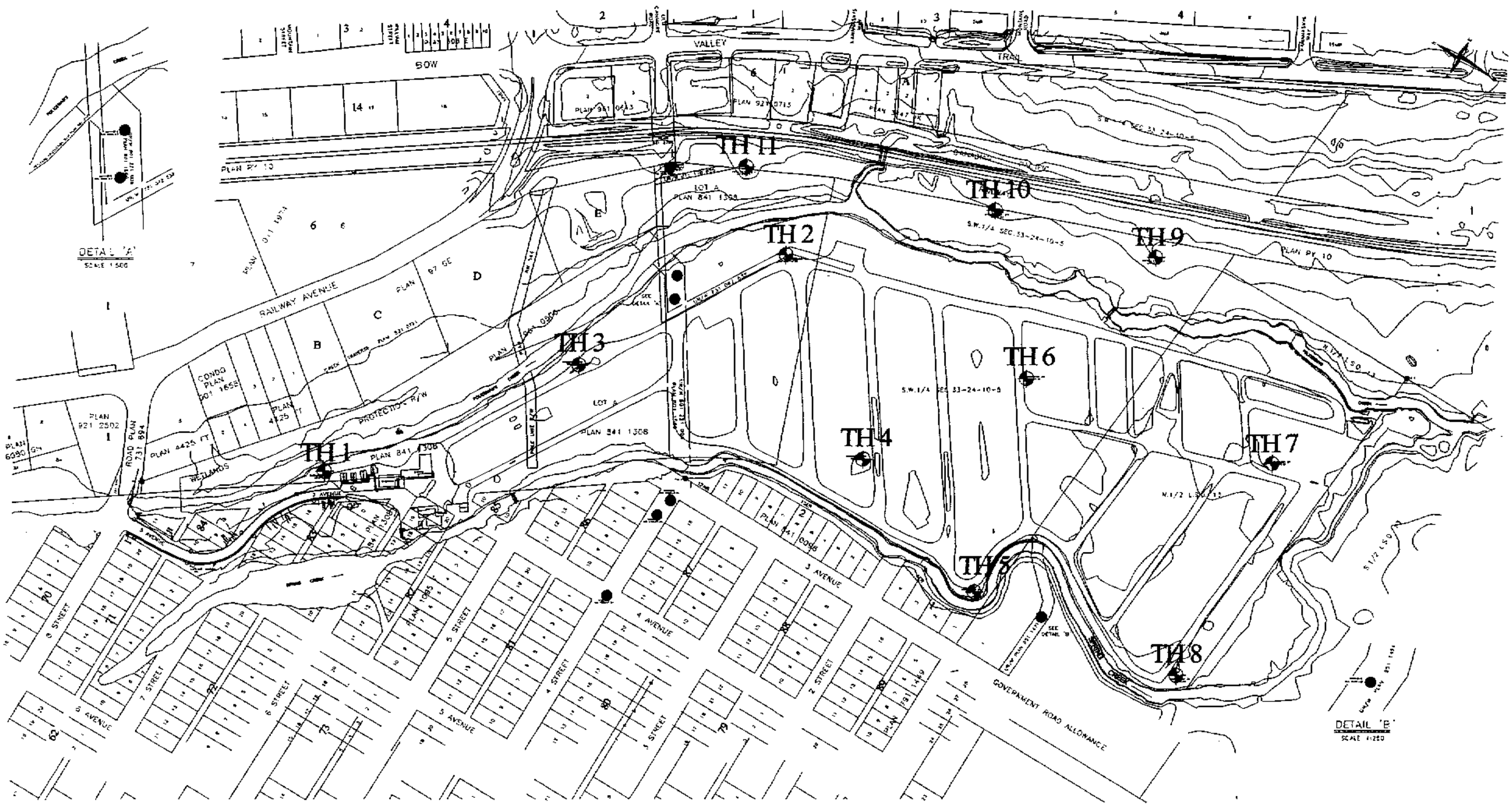
Average CBR Value: 4.36

Sabatini Earth Technologies Inc.

California Bearing Ratio Test

Client:	Mountain Engineering	**Project:**	Restwell Trailer Park
Job No.	0205-3577	**Technician:**	GS
Soil Description:	Clay	**Date:**	June 5, 2002





Sabatini Earth Technologies Inc.

Mountain Engineering Ltd.		
Proposed Restwell Trailer Park Test Hole Location Plan Canmore, Alberta		
Job No.: 0205-3583	Date: January 22, 2003	Plate: 17

APPENDIX B

Methodology for 1:100 Year Groundwater Determination

In order to accurately determine the 1:100 year groundwater elevation for a certain location, ideally, data would be available for many years at that location. Statistical methods could be used to analyze the elevations to determine the statistical 1:100 year elevation. The Town of Canmore contracted AMEC Earth & Environmental Limited in January, 2002 to review groundwater data in the Town. Through this analysis, 1:100 Year groundwater elevations were established for part of the Town area. This data was mostly available in South Canmore.

When it was first envisioned that Restwell Trailer Park may be redeveloped, piezometers were installed. Eleven were installed throughout the site and have been monitored for groundwater elevation on a weekly basis since they were installed in May, 2002. One and a half years of data will not allow an accurate determination of the 1:100 Year groundwater through statistical methods. Therefore, to determine the 1:100 year groundwater elevation within the proposed Spring Creek Mountain Village (SCMV) development, another method had to be used.

The following pages provide graphs showing all groundwater elevation data gathered in SCMV to date. The method used to determine the 1:100 Year groundwater elevations in SCMV was to compare groundwater elevations from existing Town piezometers that had a known 1:100 Year groundwater elevation with the readings in SCMV. The attached chart, following the 11 graphs, shows the data analysis. Town Piezometers 4 and 6 are close to the proposed SCMV in South Canmore. A comparison was done with available data from May 2002 to September 2003. The difference between the Town readings and SCMV readings were recorded for the weekly readings during that time period. An average of the difference was taken and this average subtracted from the known 1:100 Year groundwater elevations at Town Piezometers 4 and 6. An average of the resulting 1:100 Year elevations in SCMV was then taken to determine the design 1:100 Year groundwater elevations in SCMV. Referring to the summary chart, please note the following:

1. As noted, there are gaps where data was not available for certain periods at both SCMV piezometers and in Town piezometers.
2. Referring to the graphs showing the actual groundwater readings recorded in SCMV. This data shows the odd anomaly. For example, the reading at Piezometer #4 on February 7, 2003 was obviously recorded incorrectly. Data points that are obviously not accurate were not included in the analysis.
3. Piezometer #3 also has some anomalies. The calculated 1:100 year groundwater elevation is 1307.48m. Given the general trend of the groundwater elevations and the 1:100 Year elevations of Piezometers 2, 4, and 11, we would expect this elevation to be approximately 1307.20m. It is the elevation at Piezometer #3 that results in the 1307.25m contour having the "blip" near the west end of the site. Referring to the graph showing the actual data at this piezometer, there appears to be some anomalies between Dec 2002 and Apr 2003. Further investigation of this piezometer will be done, including a resurvey of the top of casing, to confirm the 1:100 year groundwater elevation.
4. A comparison of the Town data and SCMV data indicated that groundwater readings were not usually done on the same day. However, the readings would

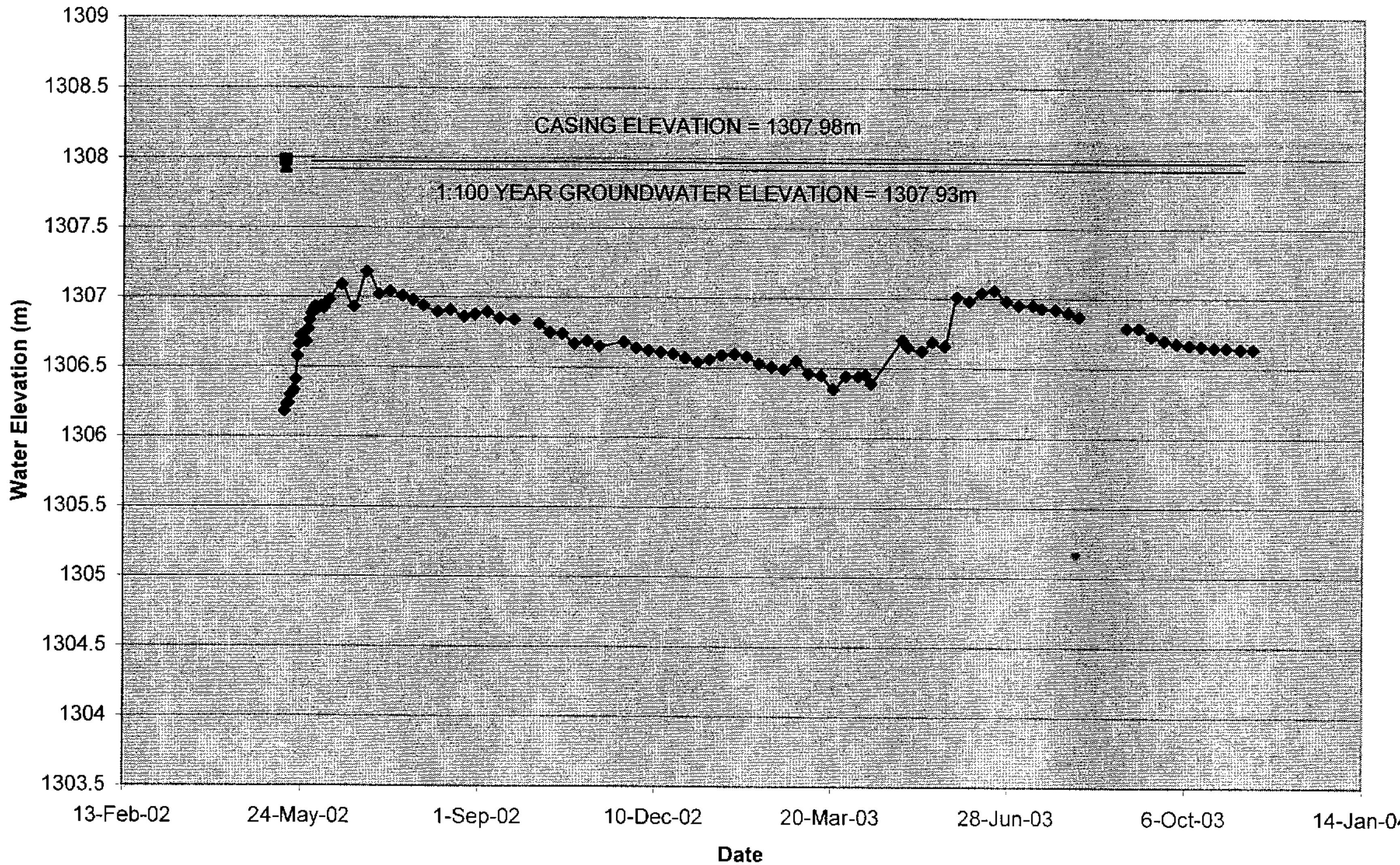
have been a maximum of 4 days apart. Given the small incremental change in the groundwater elevation between weekly readings, the comparison is still considered accurate.

5. Because only one and a half years of data is available, the groundwater elevations will continue to be updated for awhile. As more data becomes available, the data graphs, as well as the 1:100 year contour calculation may be updated.

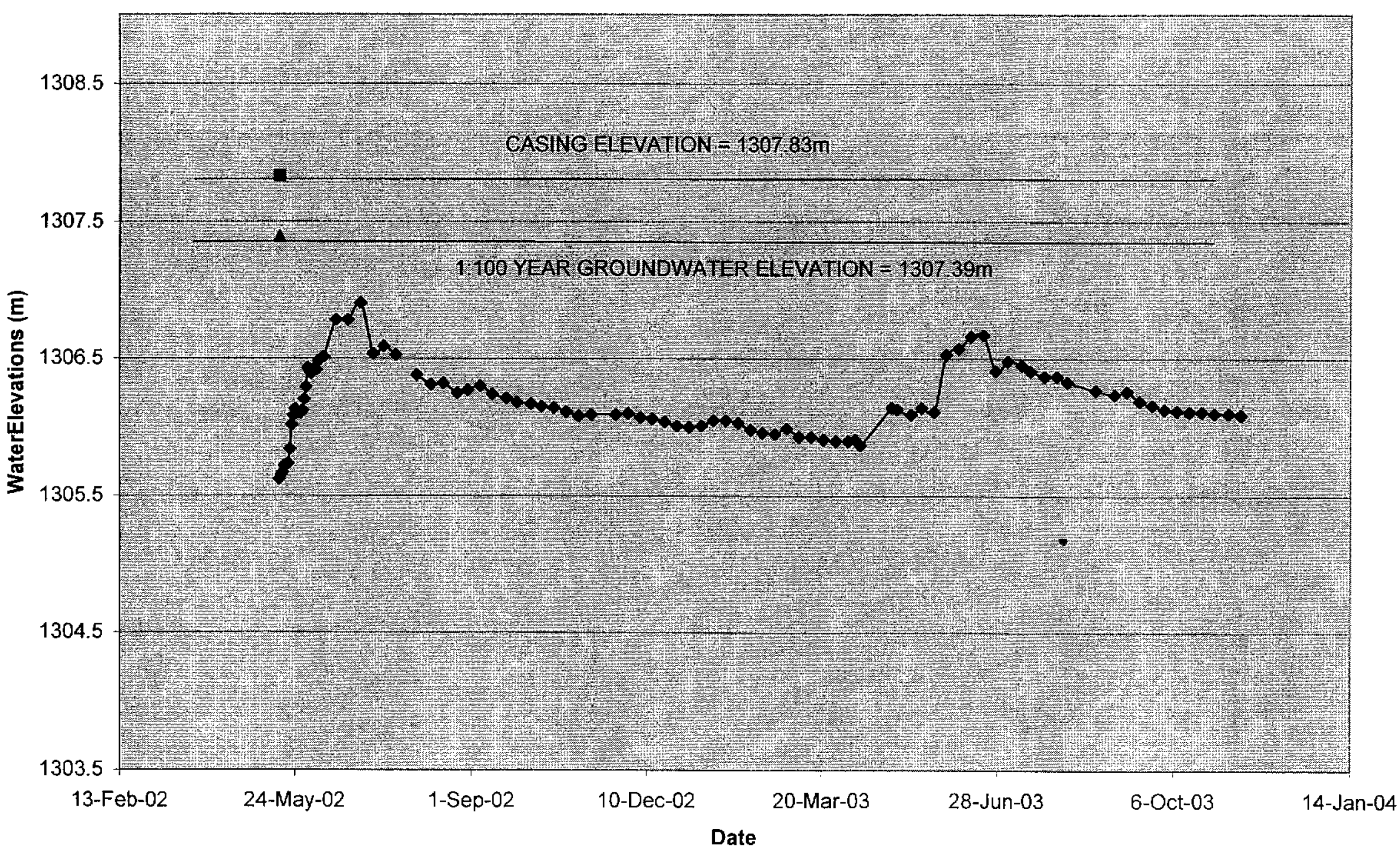
Based on the results indicated in the attached chart, that is, establishment of 1:100 Year groundwater elevations for the proposed Spring Creek Mountain Village development, 1:100 Year groundwater contours have been created for the site. These are shown on the attached Figure 1.

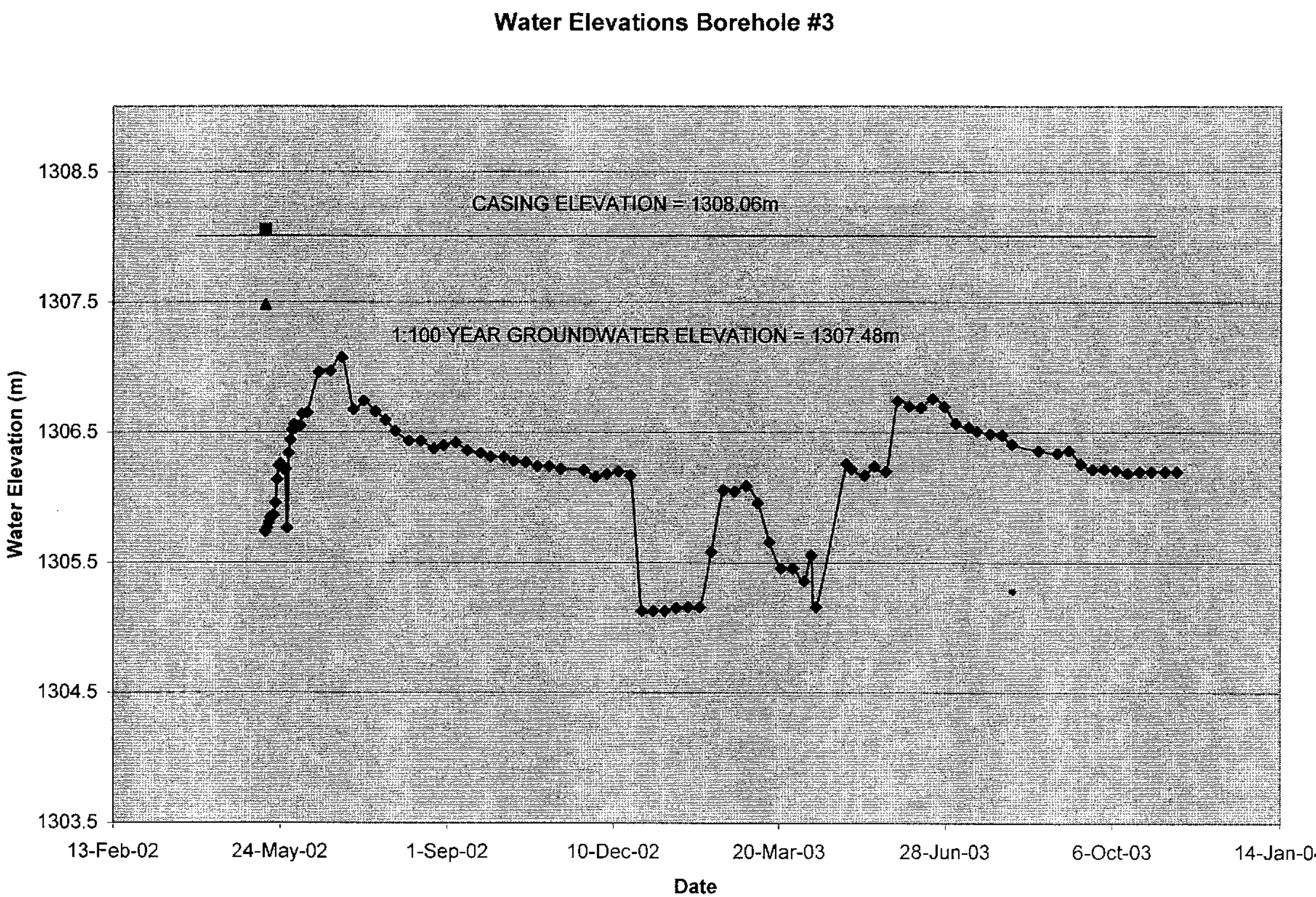
As indicated in Part C Section 8 of the Town of Canmore's land Use Bylaw, "No habitable floor space (any area that may be used as living space, or the storage of goods or articles that should be protected from flooding) shall be built below the maximum 1:100 year ground water table elevation as determined by the Town of Canmore." The 1:100 Year contours indicated on Figure 1 will be used to determine main floor elevations for the proposed development.

Water Elevations Borehole #1

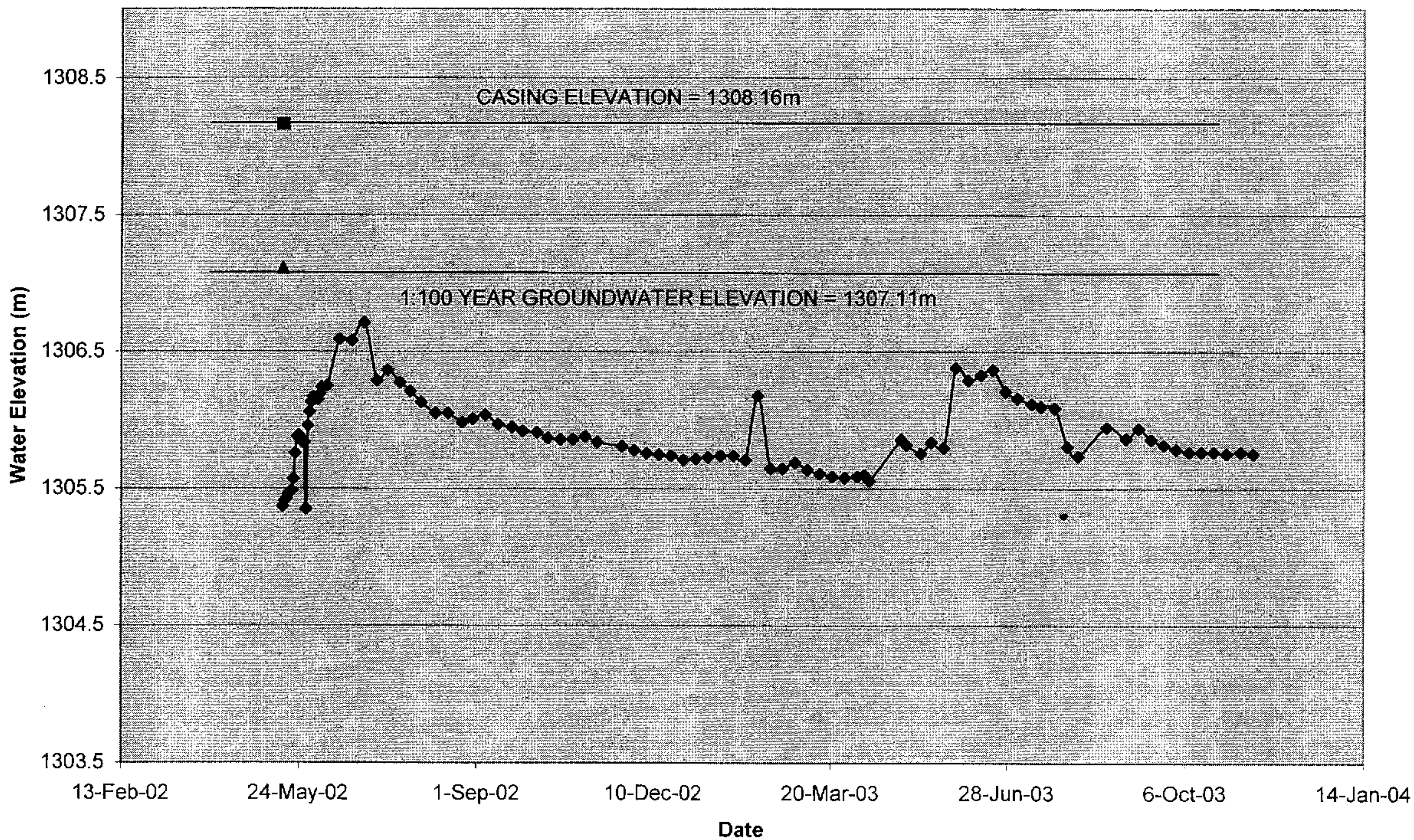


Water Elevations Borehole #2

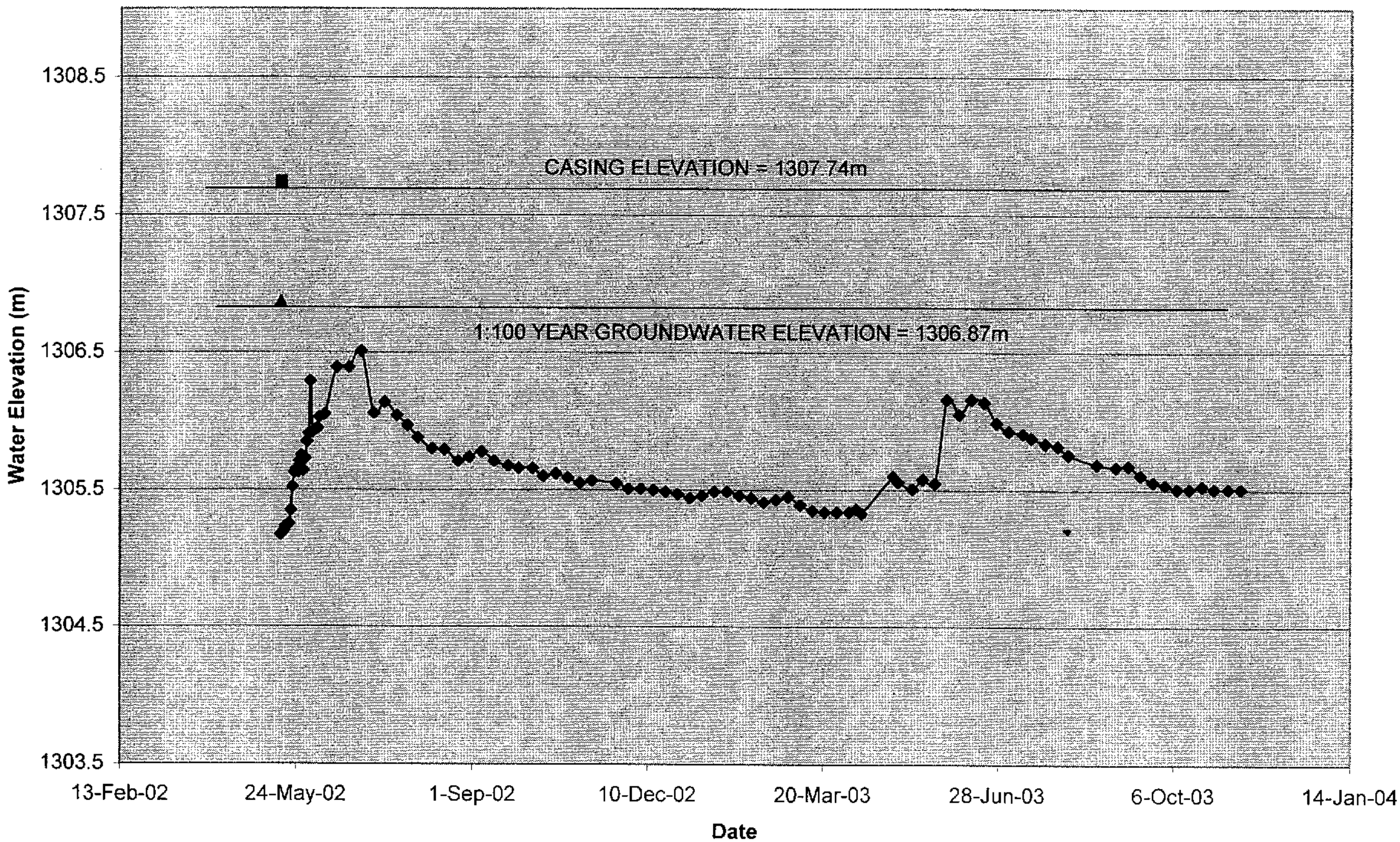



Water Elevations Borehole #3
CASING ELEVATION = 1308.06m
1:100 YEAR GROUNDWATER ELEVATION = 1307.48m
Water Elevation (m)
1308.5
1307.5
1306.5
1305.5
1304.5
1303.5
13-Feb-02
24-May-02
1-Sep-02
10-Dec-02
20-Mar-03
28-Jun-03
6-Oct-03
14-Jan-04
Date

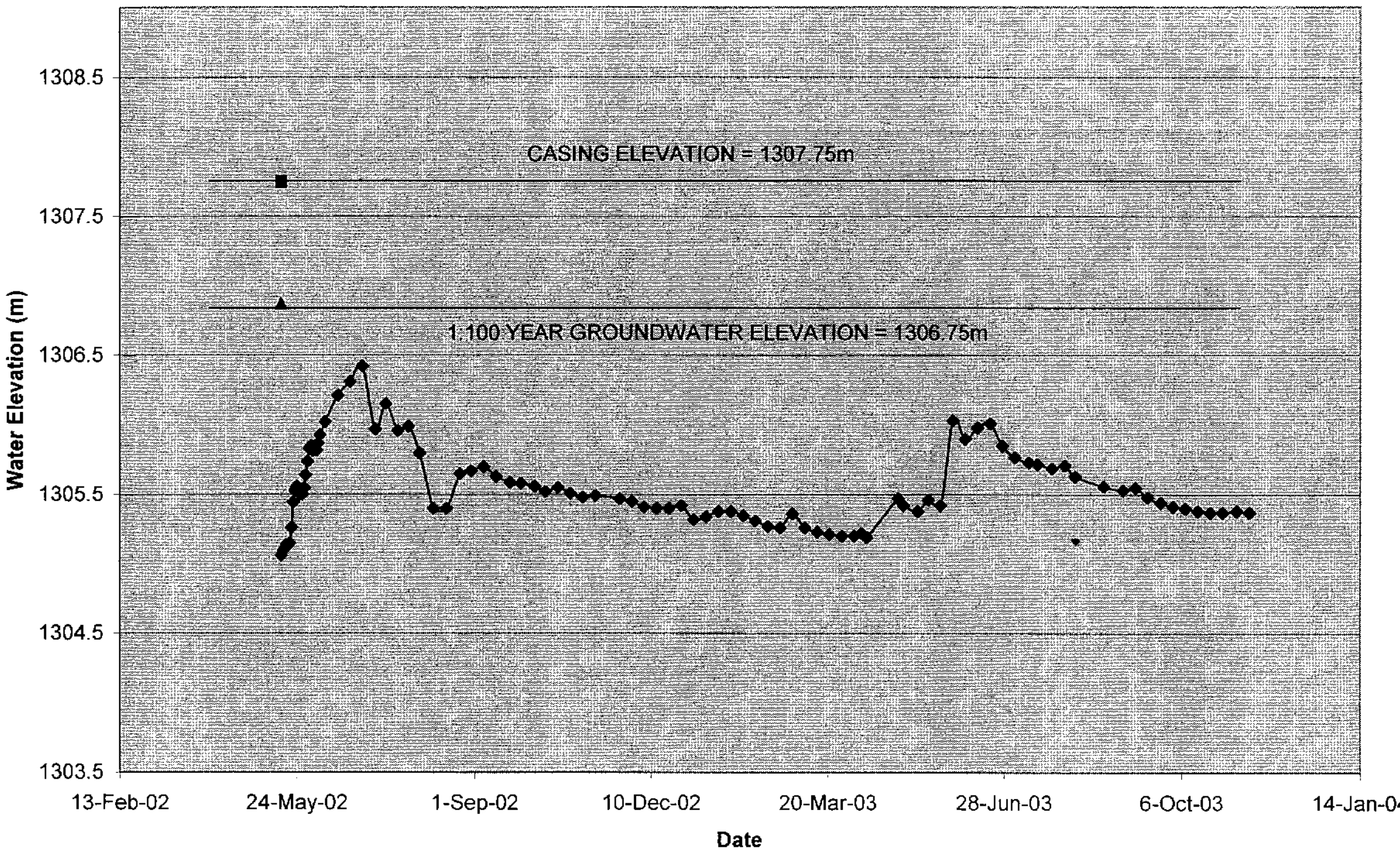
Water Elevation Borehole #4

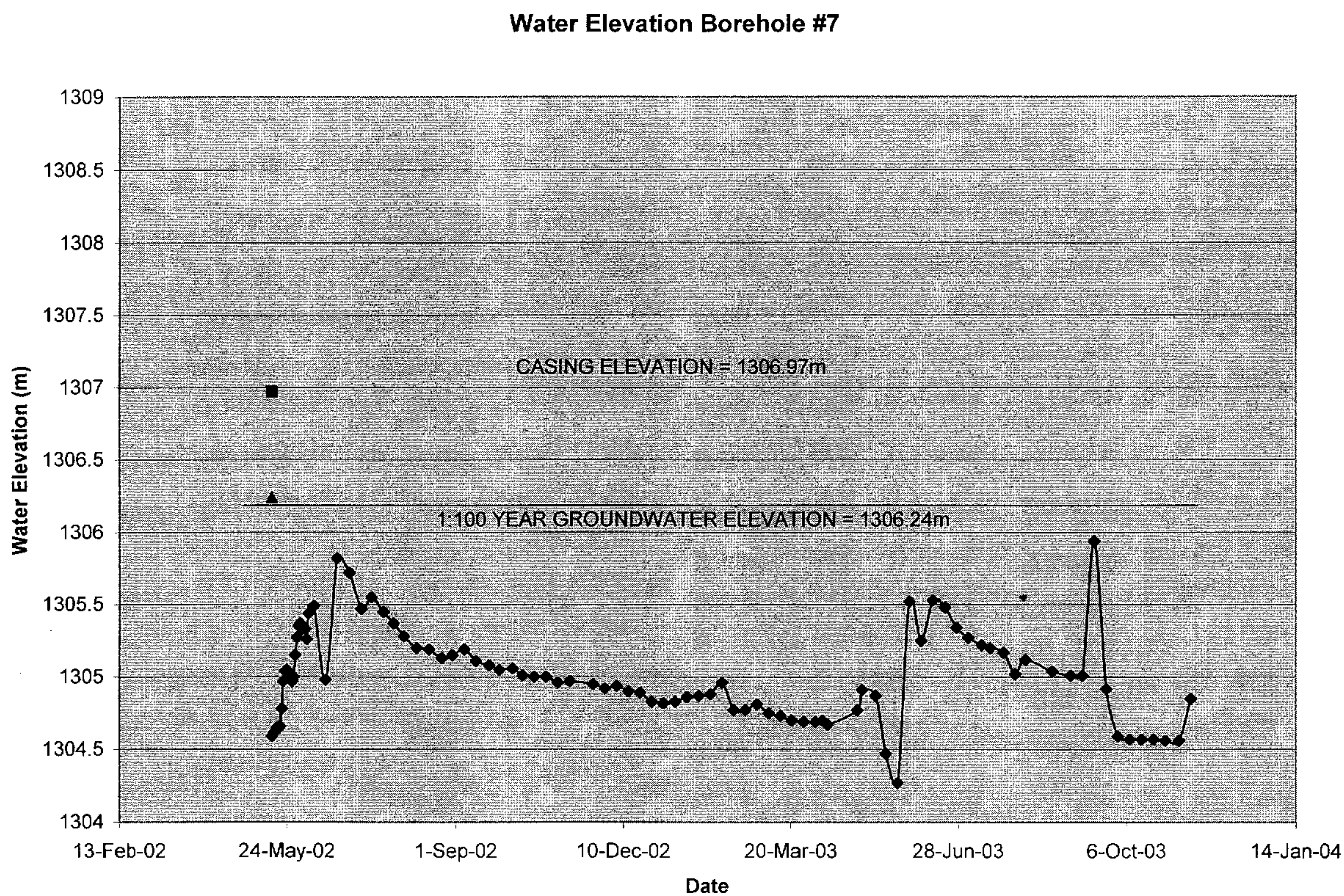


Water Elevation Borehole #5



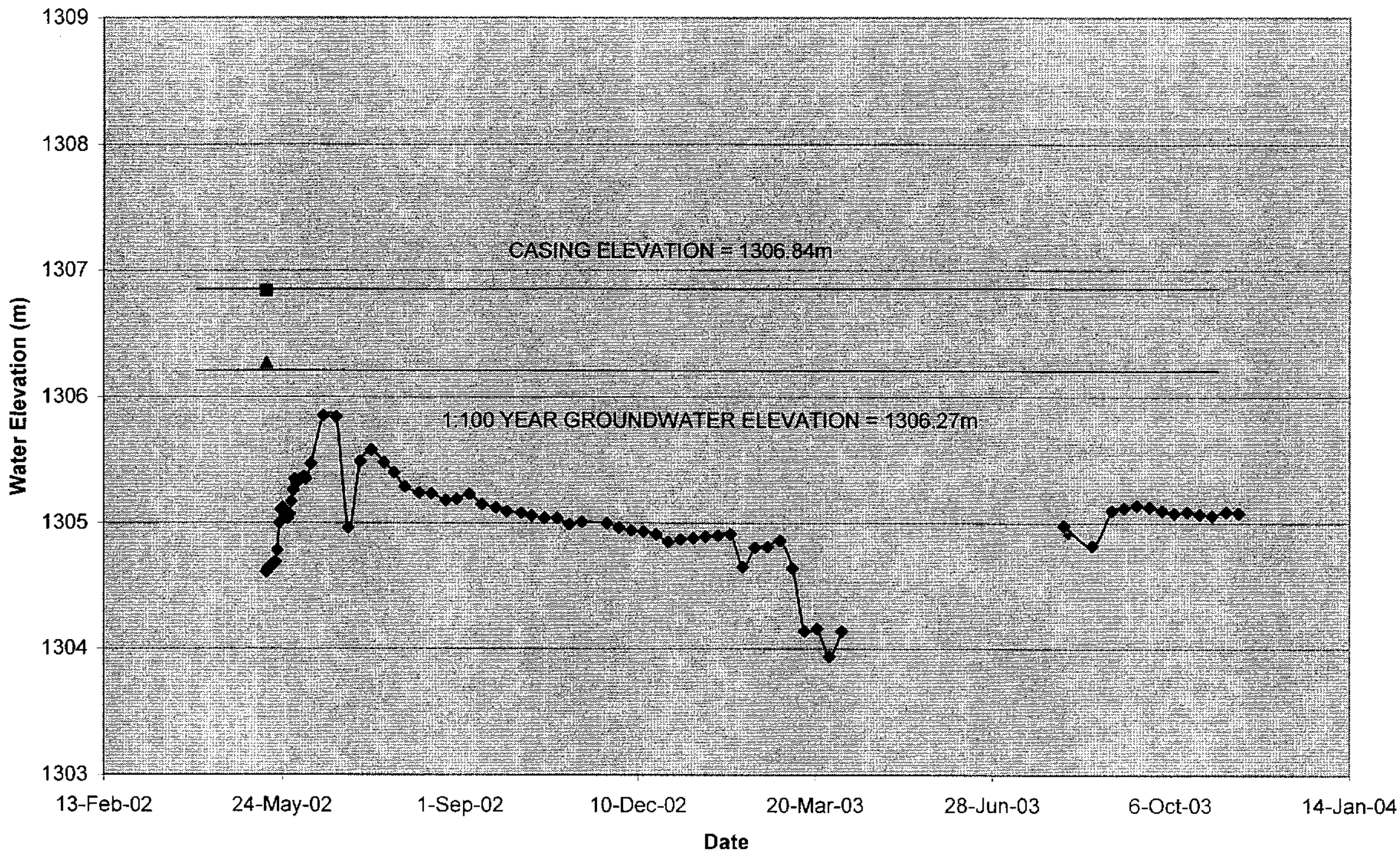
Water Elevation Borehole #6



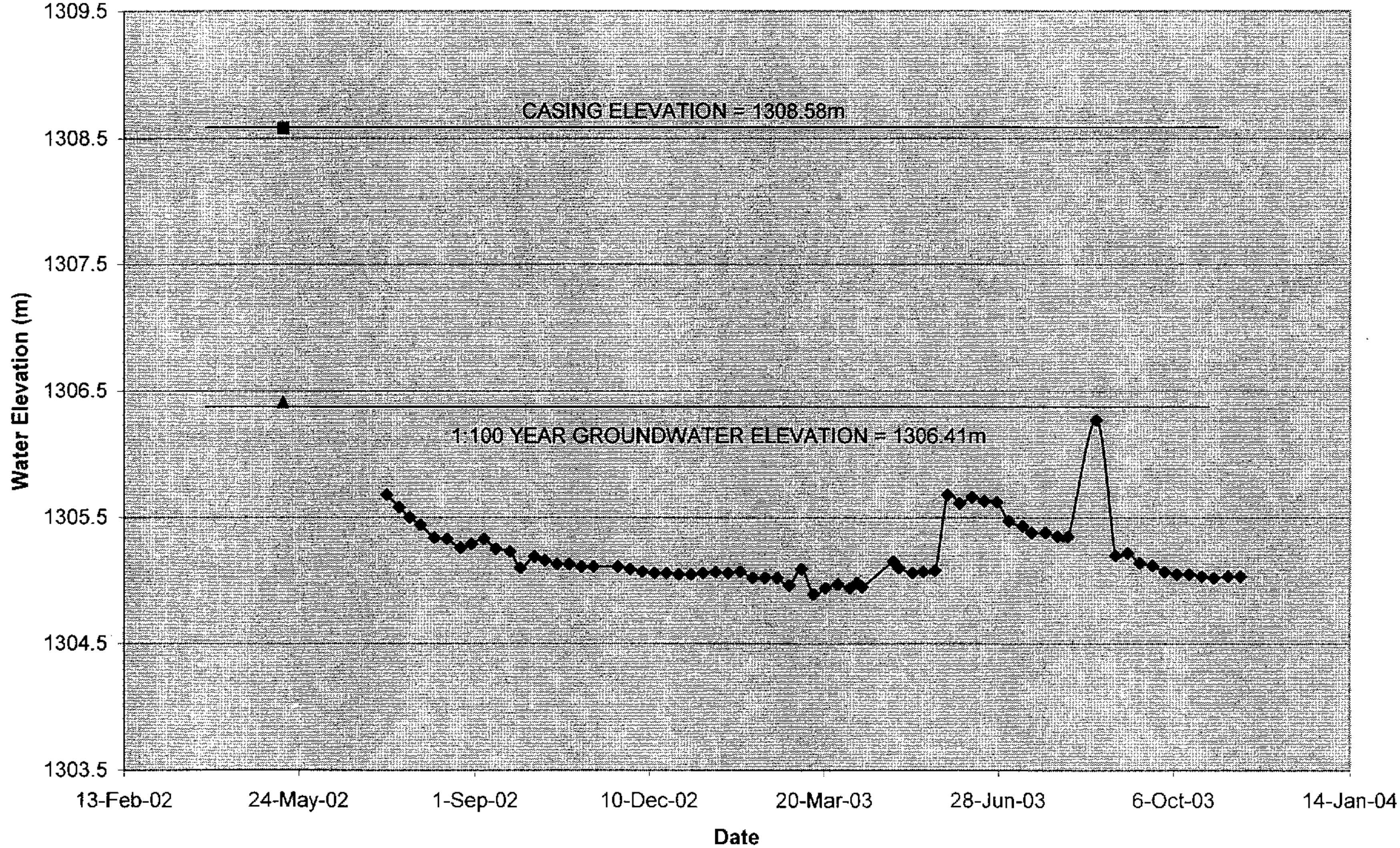


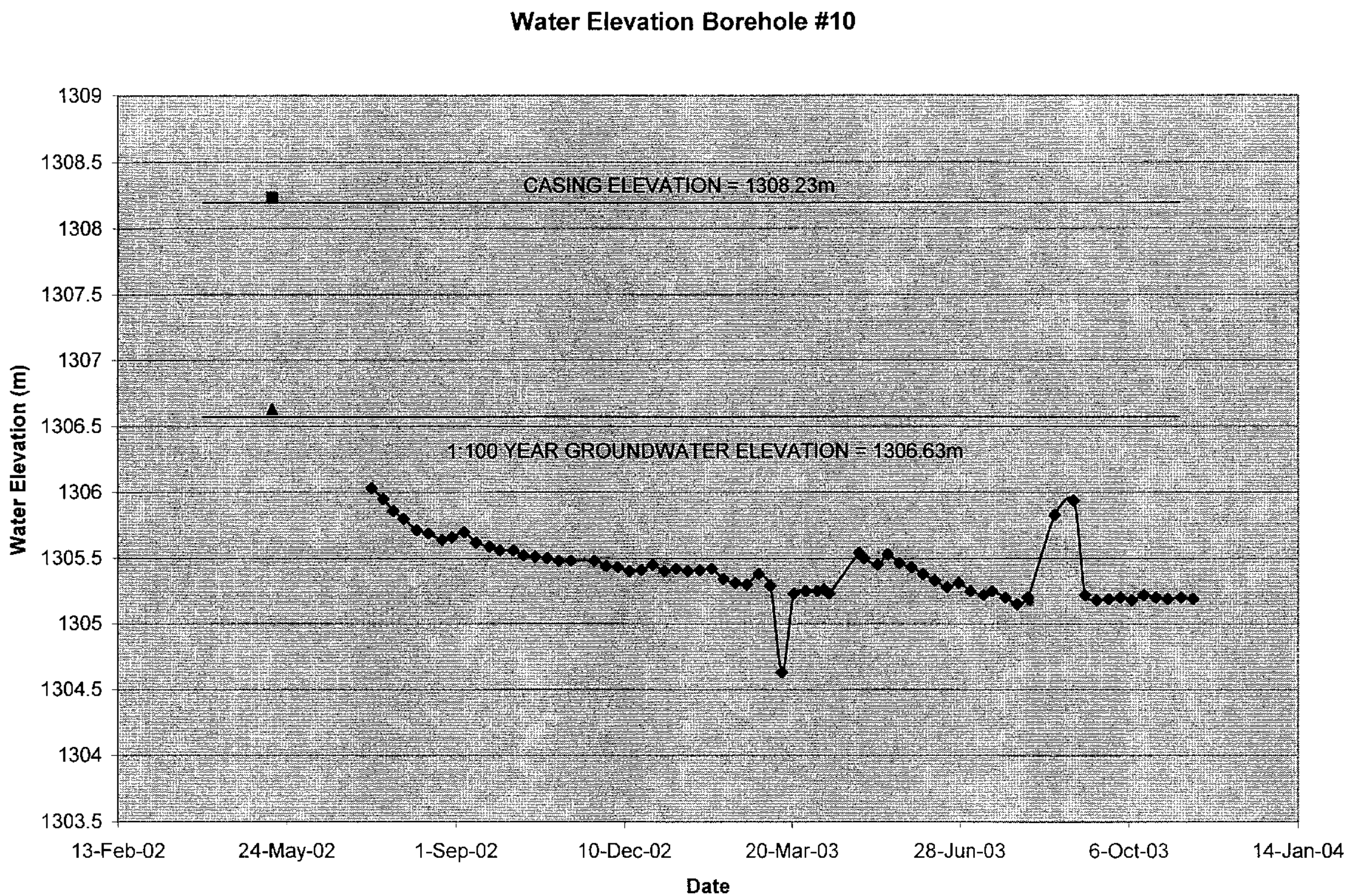
Water Elevation Borehole #7
Water Elevation (m)
1309
1308.5
1308
1307.5
1307
1306.5
1306
1305.5
1305
1304.5
1304
CASING ELEVATION = 1306.97m
1:100 YEAR GROUNDWATER ELEVATION = 1306.24m
13-Feb-02
24-May-02
1-Sep-02
10-Dec-02
20-Mar-03
28-Jun-03
6-Oct-03
14-Jan-04
Date

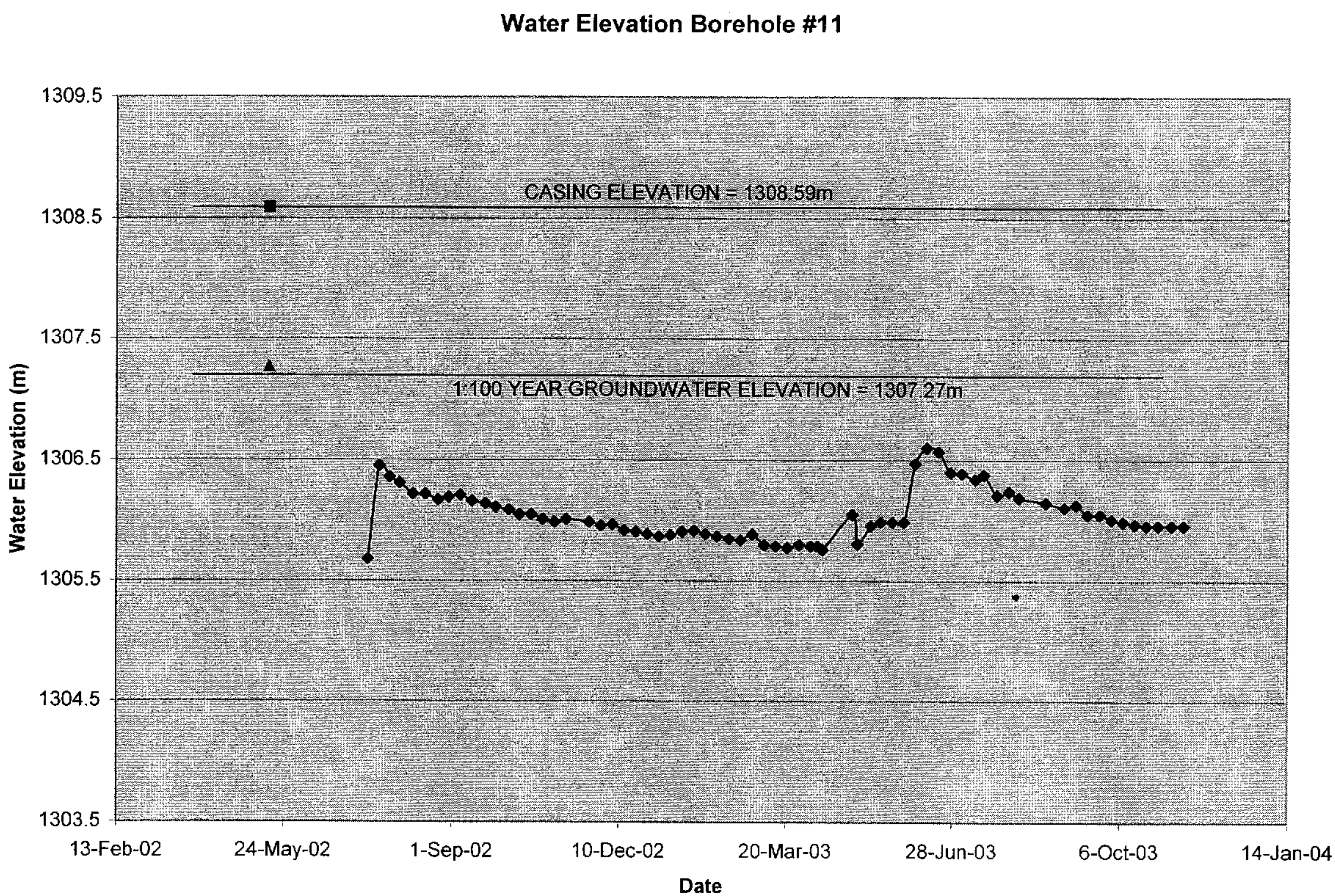
Water Elevation Borehole #8



Water Elevation Borehole #9




Water Elevation Borehole #10
Water Elevation (m)
1309
1308.5
1308
1307.5
1307
1306.5
1306
1305.5
1305
1304.5
1304
1303.5
CASING ELEVATION = 1308.23m
1:100 YEAR GROUNDWATER ELEVATION = 1306.63m
13-Feb-02
24-May-02
1-Sep-02
10-Dec-02
20-Mar-03
28-Jun-03
6-Oct-03
14-Jan-04
Date

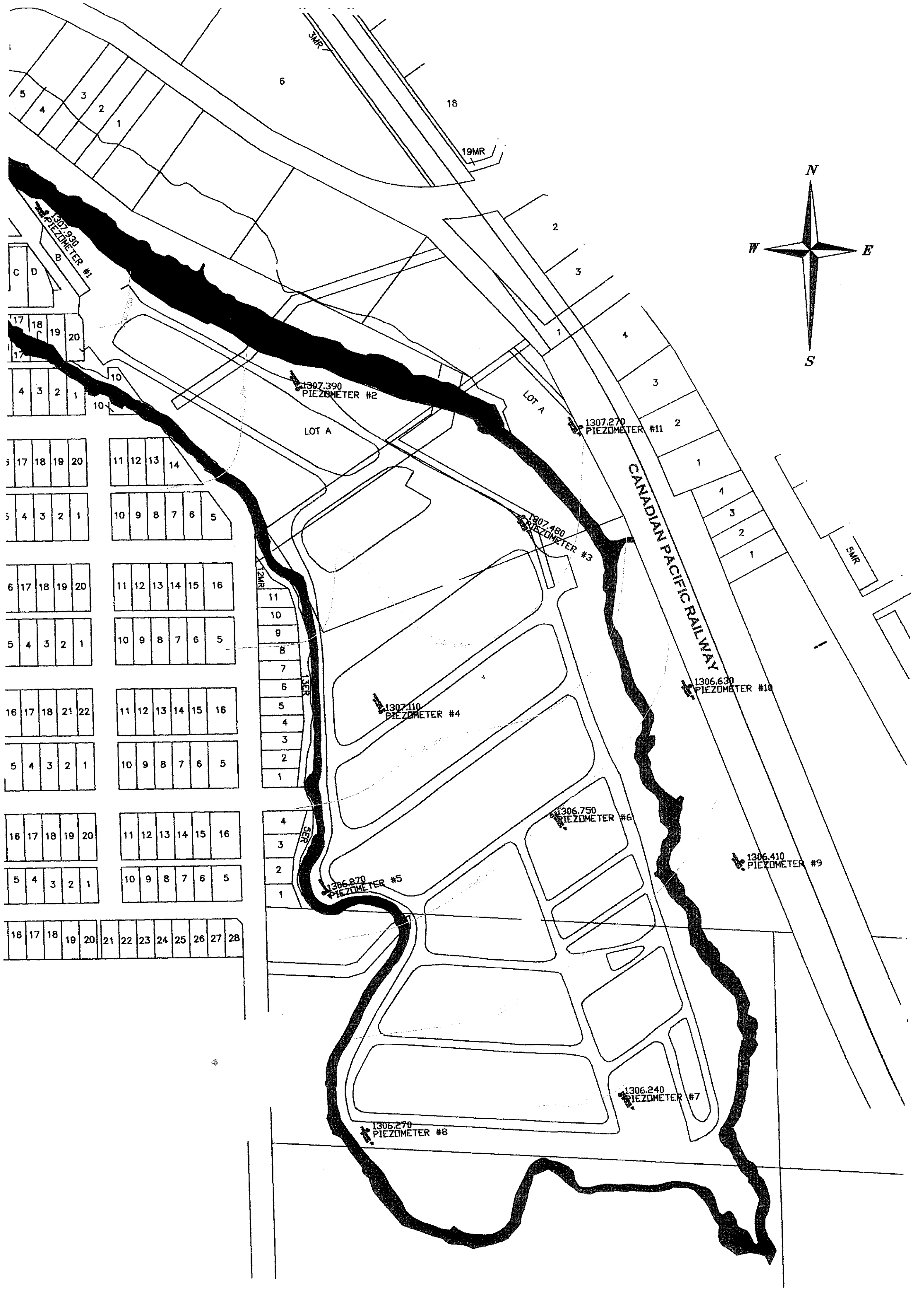

Water Elevation Borehole #11
CASING ELEVATION = 1308.59m
1:100 YEAR GROUNDWATER ELEVATION = 1307.27m
Water Elevation (m)
1309.5
1308.5
1307.5
1306.5
1305.5
1304.5
1303.5
13-Feb-02
24-May-02
1-Sep-02
10-Dec-02
20-Mar-03
28-Jun-03
6-Oct-03
14-Jan-04
Date

COMPARISON OF GROUNDWATER ELEVATIONS IN SPRING CREEK MOUNTAIN VILLAGE WITH TOWN OF CANMORE PIEZOMETERS #4 AND #6

Date	Town #4 Elevation = 1308.43	Town #6 Elevation = 1309.69	Borehole #1 Elevation = 1307.98	Difference Town #4 & BH #1	Difference Town #6 & BH #1	Borehole #2 Elevation = 1307.83	Difference Town #4 & BH #2	Difference Town #6 & BH #2	Borehole #3 Elevation = 1308.06	Difference Town #4 & BH #3	Difference Town #6 & BH #3
15-May-02			1306.16			1305.62			1305.74		
16-May-02			1306.23			1305.65			1305.77		
17-May-02			1306.239			1305.67			1305.81		
18-May-02			1306.3			1305.72			1305.85		
19-May-02	1306.21	1306.90	1306.31	-0.10	0.59	1305.73	0.49	1.18	1305.86	0.36	1.05
20-May-02			1306.33			1305.74			1305.87		
21-May-02			1306.41			1305.84			1305.96		
22-May-02			1306.575			1306.02			1306.14		
23-May-02			1306.66			1306.08			1306.25		
24-May-02			1306.72			1306.13			1306.26		
25-May-02			1306.73			1306.11			1306.23		
26-May-02	1306.67	1307.36	1306.695	-0.02	0.65	1306.10	0.57	1.25	1306.22	0.46	1.13
27-May-02			1306.68			1306.10			1306.22		
28-May-02			1306.77			1306.12					
29-May-02			1306.83			1306.20			1306.34		
30-May-02			1306.88			1306.29			1306.44		
31-May-02			1306.91			1306.43			1306.52		
01-Jun-02	1306.75	1307.41	1306.93	-0.18	0.48	1306.41	0.34	1.00	1306.56	0.19	0.85
02-Jun-02			1306.91			1306.39			1306.53		
04-Jun-02			1306.93			1306.43			1306.55		
05-Jun-02			1306.93			1306.42			1306.55		
06-Jun-02			1306.92			1306.48			1306.64		
09-Jun-02	1307.01	1307.64	1306.98	0.03	0.66	1306.51	0.50	1.13	1306.65	0.36	0.99
16-Jun-02	1306.99	1307.69	1307.09	-0.10	0.60	1306.78	0.21	0.91	1306.96	0.03	0.73
23-Jun-02	1307.35	1307.98				1306.78	0.57	1.20	1306.97	0.38	1.01
30-Jun-02	1307.39	1307.97	1307.18	0.21	0.79	1306.91	0.49	1.07	1307.08	0.32	0.89
07-Jul-02	1307.12	1307.77	1307.02	0.10	0.75	1306.54	0.59	1.24	1306.68	0.44	1.10
13-Jul-02	1307.08	1307.73	1307.04	0.04	0.69	1306.59	0.49	1.14	1306.74	0.34	0.99
20-Jul-02	1307.07	1307.73	1307.01	0.06	0.72	1306.53	0.55	1.21	1306.66	0.41	1.07
26-Jul-02	1306.97	1307.64	1306.98	-0.01	0.66				1306.60	0.38	1.05
01-Aug-02	1306.94	1307.62	1306.94	0.00	0.68	1306.38	0.56	1.24	1306.51	0.43	1.11
09-Aug-02	1306.86	1307.56	1306.895	-0.04	0.66	1306.31	0.55	1.25	1306.44	0.42	1.13
16-Aug-02	1306.85	1307.54	1306.91	-0.06	0.63	1306.32	0.53	1.22	1306.44	0.41	1.11
24-Aug-02	1306.8	1307.51	1306.86	-0.06	0.65	1306.25	0.55	1.26	1306.38	0.42	1.13
30-Aug-02	1306.83	1307.54	1306.88	-0.05	0.66	1306.27	0.56	1.27	1306.40	0.43	1.14
06-Sep-02	1306.86	1307.56	1306.895	-0.04	0.66	1306.30	0.56	1.26	1306.42	0.44	1.14
13-Sep-02	1306.79	1307.50	1306.85	-0.06	0.65	1306.24	0.55	1.26	1306.36	0.43	1.14
21-Sep-02	1306.78	1307.49	1306.84	-0.06	0.65	1306.21	0.57	1.28	1306.34	0.44	1.15
27-Sep-02	1306.73	1307.45				1306.18	0.55	1.27	1306.31	0.42	1.14
05-Oct-02	1306.73	1307.45	1306.81	-0.08	0.64	1306.17	0.56	1.28	1306.31	0.42	1.14
11-Oct-02	1306.71	1307.42	1306.75	-0.04	0.67	1306.15	0.56	1.27	1306.28	0.43	1.14
18-Oct-02	1306.68	1307.41	1306.74	-0.06	0.67	1306.14	0.54	1.27	1306.27	0.41	1.14
25-Oct-02	1306.68	1307.40	1306.67	0.01	0.73	1306.11	0.57	1.29	1306.24	0.44	1.16
01-Nov-02	1306.64	1307.35	1306.69	-0.05	0.66	1306.08	0.56	1.27	1306.24	0.40	1.11
08-Nov-02			1306.65			1306.09			1306.22		
22-Nov-02	1306.63	1307.35	1306.68	-0.05	0.67	1306.09	0.54	1.26	1306.21	0.42	1.14
29-Nov-02	1306.6	1307.30	1306.64	-0.04	0.66	1306.10	0.50	1.20	1306.16	0.44	1.14
06-Dec-02	1306.58	1307.29	1306.62	-0.04	0.67	1306.07	0.51	1.22	1306.18	0.40	1.11
13-Dec-02	1306.56	1307.24	1306.61	-0.05	0.63	1306.06	0.50	1.18	1306.20	0.36	1.04
20-Dec-02	1306.57	1307.28	1306.6	-0.03	0.68	1306.04	0.53	1.24	1306.17	0.40	1.11
27-Dec-02			1306.57			1306.01					
03-Jan-03	1306.58	1307.25	1306.54	0.04	0.71	1306.00	0.58	1.25			
10-Jan-03	1306.50	1307.24	1306.56	-0.06	0.68	1306.01	0.49	1.23			
17-Jan-03	1306.52	1307.25	1306.59	-0.07	0.66	1306.05	0.47	1.20			
24-Jan-03	1306.51	1307.24	1306.6	-0.09	0.64	1306.05	0.46	1.19			
31-Jan-03	1306.47	1307.24	1306.58	-0.11	0.66	1306.03	0.44	1.21			
07-Feb-03	1306.46	1307.22	1306.53	-0.07	0.69	1305.98	0.48	1.24			
14-Feb-03	1306.43	1307.20	1306.51	-0.08	0.69	1305.96	0.47	1.24	1306.06	0.37	1.14
21-Feb-03	1306.41	1307.18	1306.49	-0.08	0.69	1305.95	0.46	1.23	1306.05	0.36	1.13
28-Feb-03	1306.40	1307.17	1306.55	-0.15	0.62	1305.99	0.41	1.18	1306.09	0.31	1.08
07-Mar-03	1306.40	1307.13	1306.46	-0.06	0.67	1305.93	0.47	1.20	1305.96	0.44	1.17
14-Mar-03	1306.39	1307.12	1306.45	-0.06	0.67	1305.93	0.46	1.19	1305.66	0.73	1.46
21-Mar-03	1306.34	1307.11	1306.35	-0.01	0.76	1305.91	0.43	1.20	1305.46	0.88	1.65
28-Mar-03	1306.33	1307.11	1306.44	-0.11	0.67	1305.90	0.43	1.21	1305.46		
04-Apr-03	1306.35	1307.12	1306.44	-0.10	0.68	1305.90	0.45	1.22	1305.36	0.99	1.76
08-Apr-03	1306.32		1306.45	-0.13		1305.91	0.41		1305.66	0.76	
11-Apr-03			1306.39			1305.87					
29-Apr-03			1306.7			1306.14			1306.26		
02-May-03			1306.65			1306.13			1306.22		
10-May-03	1306.52		1306.62	-0.10		1306.09	0.43		1306.17	0.35	
16-May-03	1306.56	1307.31	1306.69	-0.13	0.62	1306.14	0.42	1.17	1306.24	0.32	1.07
23-May-03	1306.57	1307.32	1306.66	-0.09	0.66	1306.11	0.46	1.21	1306.20	0.37	1.12
30-May-03	1306.99	1307.71	1307.01	-0.02	0.70	1306.53	0.46	1.18	1306.74	0.25	0.97
06-Jun-03	1306.98	1307.72	1306.98	0.00	0.74	1306.57	0.41	1.15	1306.70	0.28	1.02
13-Jun-03	1307.09	1307.81	1307.04	0.05	0.77	1306.66	0.43	1.15	1306.69	0.40	1.12
20-Jun-03	1307.02	1307.74	1307.06	-0.04	0.68	1306.67	0.35	1.07	1306.76	0.26	0.98
27-Jun-03	1306.91	1307.49	1306.98	-0.07	0.51	1306.41	0.50	1.08	1306.70	0.21	0.79
04-Jul-03	1306.91	1307.66	1306.95	-0.05	0.71	1306.48	0.42	1.18	1306.57	0.34	1.09
12-Jul-03	1306.84	1307.61	1306.95	-0.11	0.66	1306.45	0.39	1.16	1306.54	0.30	1.07
17-Jul-03	1306.84	1307.60	1306.93	-0.09	0.67	1306.41	0.43	1.19	1306.51	0.33	1.09
25-Jul-03	1306.81	1307.57	1306.92	-0.11	0.65	1306.37	0.44	1.20	1306.49	0.32	1.08
01-Aug-03	1306.79	1307.56	1306.9	-0.12	0.66	1306.37	0.42	1.19	1306.48	0.31	1.08
07-Aug-03	1306.71	1307.49	1306.87	-0.16	0.62	1306.33	0.38	1.16	1306.41	0.30	1.08
14-Aug-03	1306.75	1307.53									
21-Aug-03	1306.73	1307.51				1306.27	0.46	1.24	1306.36	0.37	1.15
28-Aug-03	1306.71	1307.49									
04-Sep-03	1306.70	1307.48				1306.24	0.46	1.23	1306.34	0.36	1.13
11-Sep-03	1306.68	1307.46	1306.79	-0.11	0.67	1306.26	0.42	1.20	1306.36	0.32	1.10
18-Sep-03	1306.84	1307.42	1306.79	-0.15	0.63	1306.19	0.45	1.23	1306.26	0.38	1.16
25-Sep-03	1306.60		1306.73	-0.13		1306.16	0.44		1306.22	0.38	
02-Oct-03			1306.7			1306.13			1306.22		
09-Oct-03			1306.68			1306.12			1306.21		
16-Oct-03			1306.67			1306.11			1306.19		
23-Oct-03			1306.66			1306.11			1306.20		
30-Oct-03			1306.65			1306.10			1306.20		
06-Nov-03			1306.65			1306.10			1306.20		
13-Nov-03			1306.64			1306.09			1306.20		
20-Nov-03			1306.64								
				-0.06	0.67		0.46	1.20		0.40	1.11
1:100 Year Groundwater	1307.85	1308.62		1307.91	1307.95		1307.37	1307.42		1307.45	1307.51
AVG 1:100 Year Groundwater			1307.93			1307.39			1307.48		

Date	Borehole #4 Elevation = 1308.16	Difference Town #4 & BH #4	Difference Town #6 & BH #4	Borehole #5 Elevation = 1307.74	Difference Town #4 & BH #5	Difference Town #6 & BH #5	Borehole #6 Elevation = 1307.75	Difference Town #4 & BH #6	Difference Town #6 & BH #6	Borehole #7 Elevation = 1306.97	Difference Town #4 & BH #7	Difference Town #6 & BH #7
15-May-02	1305.37			1305.17			1305.06			1304.59		
16-May-02	1305.41			1305.18			1305.09			1304.61		
17-May-02	1305.43			1305.20			1305.11			1304.62		
18-May-02	1305.46			1305.23			1305.14			1304.65		
19-May-02	1305.47	0.74	1.43	1305.24	0.98	1.67	1305.13	1.08	1.77	1304.64	1.57	2.26
20-May-02	1305.49			1305.25			1305.15			1304.66		
21-May-02	1305.57			1305.35			1305.26			1304.78		
22-May-02	1305.76			1305.52			1305.45			1304.97		
23-May-02	1305.88			1305.63			1305.53			1305.04		
24-May-02	1305.89			1305.65			1305.56			1305.06		
25-May-02	1305.87			1305.63			1305.55			1305.03		
26-May-02	1305.84	0.83	1.51	1305.71	0.96	1.64	1305.50	1.17	1.85	1305.00	1.67	2.35
27-May-02	1305.84			1305.75			1305.50			1304.97		
28-May-02				1305.64			1305.55			1305.00		
29-May-02	1305.96			1305.73			1305.64			1305.15		
30-May-02	1306.06			1305.85			1305.74			1305.27		
31-May-02	1306.13			1305.91			1305.83			1305.35		
01-Jun-02	1306.17	0.58	1.24				1305.85	0.90	1.56	1305.37	1.38	2.04
02-Jun-02	1306.15			1305.92			1305.82			1305.33		
04-Jun-02	1306.15			1305.94			1305.82			1305.33		
05-Jun-02	1306.19			1305.95			1305.87			1305.26		
06-Jun-02	1306.24			1306.03			1305.93			1305.44		
09-Jun-02	1306.25	0.76	1.39	1306.05	0.96	1.59	1306.02	0.99	1.62	1305.49	1.52	2.15
16-Jun-02	1306.59	0.40	1.10	1306.39	0.60	1.30	1306.21	0.78	1.48			
23-Jun-02	1306.58	0.77	1.40	1306.39	0.96	1.59	1306.31	1.04	1.67	1305.82	1.53	2.16
30-Jun-02	1306.71	0.68	1.26	1306.51	0.88	1.46	1306.42	0.97	1.55	1305.72	1.67	2.25
07-Jul-02	1306.29	0.63	1.48	1306.06	1.06	1.71	1305.97	1.15	1.80	1305.47	1.65	2.30
13-Jul-02	1306.37	0.71	1.37	1306.14	0.94	1.59	1306.15	0.93	1.58	1305.55	1.53	2.18
20-Jul-02	1306.28	0.79	1.45	1306.04	1.03	1.69	1305.96	1.11	1.77	1305.45	1.62	2.28
26-Jul-02	1306.21	0.76	1.43	1305.97	1.00	1.67	1305.99	0.98	1.65	1305.37	1.60	2.27
01-Aug-02	1306.13	0.81	1.49	1305.88	1.06	1.74	1305.80	1.14	1.82	1305.28	1.66	2.34
09-Aug-02	1306.05	0.81	1.51	1305.80	1.06	1.76	1305.40	1.46	2.16	1305.20	1.66	2.36
16-Aug-02	1306.05	0.80	1.49	1305.80	1.05	1.74	1305.40	1.45	2.14	1305.19	1.66	2.35
24-Aug-02	1305.99	0.81	1.52	1306.71	1.09	1.80	1305.65	1.15	1.86	1305.13	1.67	2.38
30-Aug-02	1306.01	0.82	1.53	1305.74	1.09	1.80	1305.67	1.16	1.87	1305.15	1.68	2.39
06-Sep-02	1306.04	0.82	1.52	1305.78	1.08	1.78	1305.70	1.16	1.86	1305.19	1.67	3.37
13-Sep-02	1305.97	0.82	1.53	1305.71	1.08	1.79	1305.63	1.16	1.87	1305.11	1.68	2.39
21-Sep-02	1305.95	0.83	1.54	1305.68	1.10	1.81	1305.59	1.19	1.90	1305.08	1.70	2.41
27-Sep-02	1305.92	0.81	1.53	1305.66	1.07	1.79	1305.58	1.15	1.87	1305.05	1.68	2.40
05-Oct-02	1305.91	0.82	1.54	1305.66	1.07	1.79	1305.56	1.17	1.89	1305.06	1.67	2.39
11-Oct-02	1305.87	0.84	1.56	1305.60	1.11	1.82	1305.52	1.19	1.90	1305.01	1.70	2.41
18-Oct-02	1305.86	0.82	1.55	1305.62	1.06	1.79	1305.55	1.13	1.86	1305.00	1.68	2.41
25-Oct-02	1305.86	0.82	1.54	1305.59	1.09	1.81	1305.51	1.17	1.89	1305.00	1.68	2.40
01-Nov-02	1305.88	0.76	1.47	1305.55	1.09	1.80	1305.48	1.16	1.87	1304.96	1.68	2.39
08-Nov-02	1305.84			1305.57			1305.49			1304.97		
22-Nov-02	1305.81	0.82	1.64	1305.55	1.08	1.80	1305.47	1.16	1.88	1304.95	1.68	2.40
29-Nov-02	1305.78	0.82	1.52	1305.51	1.09	1.79	1305.45	1.15	1.85	1304.92	1.68	2.38
06-Dec-02	1305.76	0.82	1.53	1305.51	1.07	1.78	1305.41	1.17	1.88	1304.94	1.64	2.35
13-Dec-02	1305.75	0.81	1.49	1305.50	1.06	1.74	1305.40	1.16	1.84	1304.90	1.66	2.34
20-Dec-02	1305.74	0.83	1.54	1305.49	1.08	1.79	1305.40	1.17	1.88	1304.89	1.68	2.30
27-Dec-02	1305.71			1305.47			1305.42			1304.83		
03-Jan-03	1305.72	0.86	1.53	1305.44	1.14	1.81	1305.32	1.26	1.93	1304.82	1.76	2.43
10-Jan-03	1305.73	0.77	1.51	1305.46	1.04	1.78	1305.34	1.16	1.90	1304.83	1.67	2.41
17-Jan-03	1305.74	0.78	1.51	1305.49	1.03	1.76	1305.38	1.14	1.87	1304.86	1.66	2.39
24-Jan-03	1305.74	0.77	1.50	1305.49	1.02	1.75	1305.38	1.13	1.86	1304.87	1.64	2.37
31-Jan-03	1305.71	0.76	1.53	1305.46	1.01	1.78	1305.35	1.12	1.89	1304.88	1.59	2.36
07-Feb-03				1305.44	1.02	1.78	1305.31	1.15	1.91	1304.86	1.50	2.26
14-Feb-03	1305.65	0.78	1.56	1305.41	1.02	1.79	1305.27	1.16	1.93	1304.77	1.66	2.43
21-Feb-03	1305.65	0.76	1.53	1305.43	0.98	1.75	1305.26	1.15	1.92	1304.77	1.64	2.41
28-Feb-03	1305.69	0.71	1.48	1305.45	0.95	1.72	1305.36	1.04	1.81	1304.81	1.59	2.36
07-Mar-03	1305.64	0.76	1.49	1305.39	1.01	1.74	1305.26	1.14	1.87	1304.75	1.65	2.38
14-Mar-03	1305.61	0.78	1.51	1305.35	1.04	1.77	1305.23	1.16	1.89	1304.73	1.66	2.39
21-Mar-03	1305.59	0.75	1.52	1305.34	1.00	1.77	1305.21	1.13	1.90	1304.70	1.64	2.41
28-Mar-03	1305.58	0.75	1.53	1305.34	0.99	1.77	1305.20	1.13	1.91	1304.69	1.64	2.42
04-Apr-03	1305.59	0.75	1.53	1305.34	1.01	1.78	1305.20	1.14	1.92	1304.69	1.55	2.43
08-Apr-03	1305.60	0.72		1305.36	0.96		1305.22	1.10		1304.70	1.62	
11-Apr-03	1305.56			1305.33			1305.19			1304.67		
29-Apr-03	1305.86			1305.60			1305.47			1304.77		
02-May-03	1305.82			1305.56			1305.42			1304.91		
10-May-03	1305.76	0.76		1305.51	1.01		1305.38	1.14		1304.87	1.65	
16-May-03	1305.84	0.72	1.47	1305.56	0.98	1.73	1305.46	1.10	1.85			
23-May-03	1305.80	0.77	1.52	1305.55	1.02	1.77	1305.42	1.15	1.90			
30-May-03	1306.38	0.61	1.33	1306.16	0.83	1.55	1306.03	0.96	1.68	1305.52	1.47	2.19
06-Jun-03	1306.29	0.69	1.43	1306.05	0.93	1.67	1305.90	1.08	1.82	1305.25	1.73	2.47
13-Jun-03	1306.33	0.76	1.46	1306.16	0.93	1.65	1305.98	1.11	1.83	1305.53	1.56	2.28
20-Jun-03	1306.37	0.65	1.37	1306.14	0.88	1.60	1306.01	1.01	1.73	1305.48	1.54	2.26
27-Jun-03	1306.21	0.70	1.28	1305.99	0.92	1.50	1305.85	1.06	1.64	1305.34	1.57	2.15
04-Jul-03	1306.16	0.74	1.50	1305.93	0.97	1.73	1305.77	1.13	1.89	1305.27	1.63	2.39
12-Jul-03	1306.12	0.72	1.49	1305.91	0.93	1.70	1305.73	1.11	1.88	1305.22	1.62	2.39
17-Jul-03	1306.10	0.74	1.50	1305.88	0.96	1.72	1305.72	1.12	1.88	1305.20	1.64	2.40
25-Jul-03	1306.09	0.72	1.48	1305.84	0.97	1.73	1305.69	1.12	1.88	1305.17	1.64	2.40
01-Aug-03	1305.81	0.97	1.75	1305.82	0.97	1.74	1305.71	1.08	1.85	1305.02	1.77	2.54
07-Aug-03	1305.74	0.97	1.75	1305.76	0.95	1.73	1305.63	1.08	1.56	1305.12	1.59	2.37
14-Aug-03												
21-Aug-03	1305.95	0.78	1.56	1305.69	1.04	1.82	1305.56	1.17	1.95	1305.04	1.69	2.47
28-Aug-03												
04-Sep-03	1305.87	0.83	1.61	1305.67	1.03	1.80	1305.53	1.17	1.94	1305.01	1.69	2.46
11-Sep-03	1305.94	0.74	1.52	1305.68	1.00	1.78	1305.55	1.13	1.91	1305.01	1.67	2.45
18-Sep-03	1305.86	0.78	1.56	1305.61	1.03	1.81	1305.48	1.16	1.94			
25-Sep-03	1305.82	0.78		1305.56	1.04		1305.44	1.16		1304.92	1.68	
02-Oct-03	1305.79			1305.54			1305.41			1304.59		
09-Oct-03	1305.77			1305.51			1305.40			1304.57		
16-Oct-03	1305.77			1305.51			1305.38			1304.57		
23-Oct-03	1305.77			1305.53			1305.37			1304.57		
30-Oct-03	1305.76			1305.51			1305.37			1304.56		
06-Nov-03	1305.77			1305.51			1305.38			1304.56		
13-Nov-03	1305.76			1305.51			1305.37			1304.85		
20-Nov-03												
		0.77	1.49		1.01	1.73		1.12	1.84		1.63	2.35
1:100 Year Groundwater		1307.08	1307.13		1306.84	1306.89		1306.73	1306.78		1306.22	1306.27
AVG 1:100 Year Groundwater	1307.11			1306.87			1306.75			1306.24		

Date	Borehole #8 Elevation = 1306.84	Difference Town #4 & BH #8	Difference Town #6 & BH #8	Borehole #9 Elevation = 1308.58	Difference Town #4 & BH #9	Difference Town #6 & BH #9	Borehole #10 Elevation = 1308.23	Difference Town #4 & BH #10	Difference Town #6 & BH #10	Borehole #11 Elevation = 1308.59	Difference Town #4 & BH #11	Difference Town #6 & BH #11
15-May-02	1304.61											
16-May-02	1304.64											
17-May-02	1304.65											
18-May-02	1304.67											
19-May-02	1304.67	1.54	2.23									
20-May-02	1304.69											
21-May-02	1304.78											
22-May-02	1305.00											
23-May-02	1305.11											
24-May-02	1305.12											
25-May-02	1305.08											
26-May-02	1305.04	1.63	2.31									
27-May-02	1305.04											
28-May-02	1305.07											
29-May-02	1305.17											
30-May-02	1305.26											
31-May-02	1305.35											
01-Jun-02	1305.32	1.43	2.09									
02-Jun-02	1305.34											
04-Jun-02	1305.36											
05-Jun-02	1305.37											
06-Jun-02	1305.35											
09-Jun-02	1305.47	1.54	2.17									
16-Jun-02	1305.85	1.14	1.84									
23-Jun-02	1305.84	1.51	2.14									
30-Jun-02												
07-Jul-02	1305.49	1.63	2.28									
13-Jul-02	1305.58	1.50	2.16	1305.68	1.40	2.06	1306.03	1.05	1.70			
20-Jul-02	1305.48	1.59	2.25	1305.58	1.49	2.15	1305.95	1.12	1.78	1306.45	0.62	1.28
26-Jul-02	1305.40	1.57	2.24	1305.50	1.47	2.14	1305.86	1.11	1.78	1306.36	0.61	1.28
01-Aug-02	1305.29	1.65	2.33	1305.44	1.50	2.18	1305.80	1.14	1.82	1306.31	0.63	1.31
09-Aug-02	1305.24	1.62	2.32	1305.34	1.52	2.22	1305.72	1.14	1.85	1306.22	0.64	1.34
16-Aug-02	1305.24	1.62	2.31	1305.33	1.52	2.21	1305.69	1.16	1.85	1306.22	0.63	1.32
24-Aug-02	1305.18	1.62	2.33	1305.26	1.54	2.25	1305.64	1.18	1.87	1306.17	0.63	1.34
30-Aug-02	1305.19	1.64	2.35	1305.29	1.54	2.25	1305.66	1.17	1.88	1306.19	0.64	1.35
06-Sep-02	1305.23	1.63	2.33	1305.33	1.53	2.23	1305.70	1.16	1.86	1306.21	0.65	1.35
13-Sep-02	1305.15	1.64	2.35	1305.25	1.54	2.26	1305.62	1.17	1.88	1306.16	0.63	1.34
21-Sep-02	1305.12	1.66	2.37	1305.23	1.55	2.26	1305.59	1.19	1.90	1306.14	0.64	1.35
27-Sep-02	1305.09	1.64	2.36	1305.10	1.63	2.35	1305.56	1.17	1.89	1306.11	0.62	1.34
05-Oct-02	1305.08	1.65	2.37	1305.19	1.54	2.26	1305.56	1.17	1.89	1306.09	0.64	1.36
11-Oct-02	1305.06	1.65	2.36	1305.16	1.55	2.26	1305.52	1.19	1.90	1306.05	0.66	1.37
18-Oct-02	1305.04	1.64	2.37	1305.13	1.55	2.26	1305.51	1.17	1.90	1306.05	0.63	1.36
25-Oct-02	1305.04	1.64	2.36	1305.13	1.55	2.27	1305.50	1.18	1.90	1306.01	0.67	1.39
01-Nov-02	1304.99	1.65	2.36	1305.11	1.53	2.24	1305.48	1.16	1.87	1305.99	0.65	1.38
08-Nov-02	1305.01			1305.11			1305.48			1306.01		
22-Nov-02	1305.00	1.63	2.35	1305.11	1.52	2.24	1305.48	1.15	1.87	1305.99	0.64	1.36
29-Nov-02	1304.96	1.64	2.34	1305.09	1.51	2.21	1305.44	1.16	1.86	1305.96	0.64	1.34
06-Dec-02	1304.94	1.64	2.35	1306.07	1.51	2.22	1305.43	1.15	1.86	1305.97	0.61	1.32
13-Dec-02	1304.93	1.63	2.31	1305.06	1.50	2.18	1305.40	1.16	1.84	1305.92	0.64	1.32
20-Dec-02	1304.91	1.66	2.37	1305.06	1.51	2.22	1305.41	1.16	1.87	1305.91	0.66	1.37
27-Dec-02	1304.85			1305.05			1305.45			1305.89		
03-Jan-03	1304.87	1.71	2.38	1305.05	1.53	2.20	1305.40	1.18	1.85	1305.87	0.71	1.38
10-Jan-03	1304.88	1.62	2.36	1305.06	1.44	2.18	1305.42	1.08	1.82	1305.88	0.62	1.36
17-Jan-03	1304.89	1.63	2.36	1305.07	1.45	2.19	1305.40	1.12	1.85	1305.91	0.61	1.34
24-Jan-03	1304.90	1.61	2.34	1305.08	1.45	2.18	1305.41	1.10	1.83	1305.92	0.59	1.32
31-Jan-03	1304.91	1.56	2.33	1305.07	1.40	2.17	1305.42	1.05	1.82	1305.89	0.58	1.35
07-Feb-03	1304.65	1.81	2.57	1305.02	1.44	2.20	1305.34	1.12	1.98	1305.87	0.59	1.35
14-Feb-03	1304.81	1.63	2.40	1305.02	1.41	2.18	1305.31	1.12	1.89	1305.85	0.58	1.35
21-Feb-03	1304.81	1.60	2.37	1305.02	1.39	2.16	1305.30	1.11	1.88	1305.84	0.57	1.34
28-Feb-03	1304.86	1.54	2.31	1304.96	1.44	2.21	1305.38	1.02	1.79	1305.89	0.51	1.26
07-Mar-03	1304.64	1.76	2.49	1305.09	1.31	2.04	1305.29	1.11	1.84	1305.80	0.60	1.33
14-Mar-03				1304.89	1.50	2.23				1305.79	0.60	1.33
21-Mar-03				1304.94	1.40	2.17	1305.23	1.11	1.88	1305.78	0.56	1.33
28-Mar-03				1304.97	1.36	2.14	1305.25	1.08	1.86	1305.80	0.53	1.31
04-Apr-03				1304.94	1.41	2.18	1305.25	1.10	1.87	1305.79	0.56	1.33
08-Apr-03				1304.98	1.34		1305.26	1.06		1305.79	0.53	
11-Apr-03				1304.95			1305.23			1305.76		
29-Apr-03				1305.15			1305.54			1306.05		
02-May-03				1305.10			1305.50			1305.81		
10-May-03				1305.06	1.46		1305.45	1.07		1305.96	0.56	
16-May-03				1305.07	1.49	2.24	1305.53	1.03	1.78	1305.99	0.57	1.32
23-May-03				1305.08	1.49	2.24	1305.46	1.11	1.86	1305.99	0.58	1.33
30-May-03				1305.68	1.31	2.03	1305.43	1.56	2.28	1305.99	1.00	1.72
06-Jun-03				1305.61	1.37	2.11	1305.38	1.60	2.34	1306.47	0.51	1.25
13-Jun-03				1305.66	1.43	2.15	1305.33	1.76	2.48	1306.60	0.49	1.21
20-Jun-03				1305.63	1.39	2.11	1305.28	1.74	2.46	1306.57	0.45	1.17
27-Jun-03				1305.62	1.29	1.87	1305.31	1.60	2.18	1306.40	0.51	1.09
04-Jul-03				1305.47	1.43	2.19	1305.25	1.65	2.41	1306.39	0.52	1.27
12-Jul-03				1305.43	1.41	2.18	1305.22	1.62	2.39	1306.34	0.50	1.27
17-Jul-03				1305.38	1.46	2.22	1305.25	1.59	2.35	1306.38	0.46	1.22
25-Jul-03				1305.38	1.43	2.19	1305.20	1.61	2.37	1306.21	0.60	1.36
01-Aug-03				1305.35	1.44	2.21	1305.15	1.63	2.41	1306.24	0.55	1.32
07-Aug-03	1304.98	1.73	2.51	1305.35	1.36	2.14	1305.20	1.51	2.29	1306.19	0.52	1.30
14-Aug-03												
21-Aug-03	1304.82									1306.15	0.58	1.36
28-Aug-03												
04-Sep-03	1305.10			1305.20	1.50	2.27				1306.11	0.59	1.37
11-Sep-03	1305.12			1305.22	1.46	2.24	1305.22	1.46	2.24	1306.13	0.55	1.33
18-Sep-03	1305.14			1305.14	1.50	2.28	1305.18	1.46	2.24	1306.05	0.59	1.37
25-Sep-03	1305.13			1305.12	1.48		1305.19	1.41		1306.05	0.56	
02-Oct-03	1305.10			1305.07			1305.20			1306.01		
09-Oct-03	1305.08			1305.05			1305.18			1305.99		
16-Oct-03	1305.09			1305.05			1305.22			1305.97		
23-Oct-03	1305.07			1305.03			1305.20			1305.96		
30-Oct-03	1305.06			1305.02			1305.19			1305.96		
06-Nov-03	1305.09			1305.03			1305.20			1305.96		
13-Nov-03	1305.08			1305.03			1305.19			1305.96		
20-Nov-03												
		1.61	2.32		1.46	2.19		1.24	1.98		0.60	1.33
1:100 Year Groundwater		1306.24	1306.30		1306.39	1306.43		1306.61	1306.64		1307.25	1307.29
AVG 1:100 Year Groundwater	1306.27			1306.41			1306.63			1307.27		



Mountain Engineering Ltd. Land Development and Municipal	1:100 YEAR GROUNDWATER CONTOURS		Spring Creek MOUNTAIN VILLAGE
	DATE: NOV. 2002	DRAWN BY: A.K.	
	SCALE: NTS	FIGURE 1	

LEGEND